

Residential Remodel Building Permit Requirements Installation of a pool or spa

Important notes about building permit request submissions

- All permit applications must be submitted online using the [Customer Access](#) portal.
- There is no need to email us when you submit documents. Staff is notified automatically within one business day of your submission.
- Submit documents as PDF file type only.
- Please include the following:
 1. List the site address on all documents and plans.
 2. Include the owner's name on all documents.
- Permit review will be delayed if the required documents are not submitted online, if they are not submitted as PDFs, or if the documentation is missing information.
- All submitted documents will become a public permanent record of the property. It is in your best interest that the submitted PDFs are of the highest quality and detail, in case you or somebody else needs to refer to them in the future.

General requirements

Please specify:

- The type of class of the listed pool, according to the 2021 International Swimming Pool and Spa Code (ISPSC).
- The source for the make-water (i.e., supply water) for the boiler. See section 608 of the 2021 International Plumbing Code (IPC).
- The method of protection for the potable water supply (e.g., a backflow preventer).

Required documents

Attach the following to the online application:

1. A copy of all manufacturer product data and installation instructions, including all pool equipment, lighting, pool cover, etc.

2. Site Plan:

- a. It must show the location of all proposed construction in relation to property lines and any other structures currently on the property with legible distances.
 - b. It must show the location of any overhead power lines.
 - c. It must show the legal address, the lot, and block numbers.
 - d. Important: the submitted site plan will be filed as a permanent record.
3. Provide a geotechnical (soils) test report, including an original stamp and signature by the engineer.
 4. Existing or New Barrier: provide information confirming that the perimeter fencing (barrier) complies with the ISPSC or that alterations will be made to comply.
 5. The engineer, performing all pool/spa foundation inspections, including any caissons, footings, grade beams, foundation walls, and required re-enforcement, etc., must provide a [Foundation Inspection Report](#) form, including inspection dates. The form must be stamped and signed.
 6. Provide Mechanical and Plumbing sheets, which must include [a gas piping isometric plan](#) for the pool boiler.

Important additional requirements for a successful inspection

- Download, print and have the following documents ready for the inspector from the [Customer Access](#) portal:
 - A color copy of all final stamped permit documents (i.e., all the ones reviewed and approved – these documents are found in the Customer Access portal and will have the file name marked as “FINAL”).
 - A copy of the review comments.
- Make sure that a copy of all manufacturer product data and installation instructions is available for review during inspection. Include all pool equipment, lighting, pool cover, etc. If these documents are not available, you will fail the inspection.
- Piping installed in trenches, including process piping, needs to be inspected before backfilling.

- The pool barrier must be in place, inspected and approved before filling the pool with water.
- All trenches for gas or electric services for pool equipment shall be inspected prior to burial.
- All motors must be Ground Fault Circuit Interrupter (GFCI) protected, as per Article 680.22 of the 2020 National Electrical Code (NEC), and field verified.
- All electrical bonding of equipment, metallic devices, pool re-enforcement, etc. must be installed as per Article 680.26 of the 2020 NEC and will be inspected prior to concealment.
- Make sure that the installation complies with all requirements as listed in the section “Residential dwelling code compliance and mandatory requirements when installing a pool or spa” on page 4.

Residential dwelling code compliance and mandatory requirements when installing a pool or spa

Please make sure the residential dwelling and pool installation abide by the following code requirements:

General

1. International Residential Code (IRC) 302.1 Electrical: "Electrical requirements for aquatic facilities shall be in accordance with National Fire Protection Association (NFPA) 70 or the IRC, as applicable in accordance with Section 102.7.1."
 - a. Exception: Internal wiring for portable residential spas and portable residential exercise spas.
2. IRC 302.2 Water service and drainage: "Piping and fittings used for water service, makeup and drainage piping for pools and spas shall comply with the International Plumbing Code. Fittings shall be approved for installation with the piping installed."
3. IRC 302.3 Pipe, fittings and components: "Pipe, fittings, and components shall be listed and labeled in accordance with NSF 50 or NSF 14. Plastic jets, fittings, and outlets used in public spas shall be listed and labeled in accordance with NSF 50."
 - a. Portable residential spas and portable residential exercise spas must be listed and labeled in accordance with Underwriter's Laboratory (UL) 1563 or Canadian Standards Association (CSA) C22.2 No. 218.1.
 - b. On-ground storable pools, supplied by the pool manufacturer as a kit that includes all pipe, fittings and components.
 - c. IRC 302.4 Concealed piping inspection. "Piping, including process piping, that is installed in trenches, shall be inspected prior to backfilling."
4. IRC 302.5 Backflow protection: "Water supplies for pools and spas shall be protected against backflow in accordance with the International Plumbing Code or the International Residential Code, as applicable in accordance with Section 102.7.1."
5. IRC 302.6 Waste-water discharge: "Where wastewater from pools and spas, backwash from filters, and water from deck drains discharge to the building drainage system, such installation shall be in accordance with the International Plumbing Code or the International Residential Code, as applicable in accordance with Section 102.7.1."
6. IRC 302.7 Tests: "Tests on water piping systems constructed of plastic piping shall not use compressed air for the test."

7. IRC 302.8 Maintenance: “Pools and spas shall be maintained in a clean and sanitary condition, and in good repair.”
8. IRC 302.8.1 Manuals: “An operating and maintenance manual in accordance with industry-accepted standards shall be provided for each piece of equipment requiring maintenance.”
9. IRC 303.1 Energy consumption of pools and permanent spas: “The energy consumption of pools and permanent spas shall be controlled by the requirements in Sections 303.1.1 through 303.1.3.”
10. IRC 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.”

IRC 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.

a. Exceptions:

- i. Where public health standards require 24-hour pump operation.
- ii. Pumps that operate solar- or waste-heat recovery pool heating systems.”

11. IRC 303.1.3 Covers: “Outdoor heated pools and outdoor permanent spas shall be provided with a vapor retardant cover or other approved vapor-retardant means in accordance with IRC Section 104.11.
 - a. Exception: Where more than 70 percent of the energy for heating, computed over an operating season, is from site-recovered energy such as from a heat pump or solar energy source, covers or other vapor retardant means shall not be required.”
12. IRC 303.3 Residential pools and permanent residential spas: “The energy consumption of residential swimming pools and permanent residential spas shall be controlled in accordance with the requirements of APSP 15.”

13. IRC 307.5 Freeze protection: “In climates subject to freezing temperatures, outdoor pool and spa shells and appurtenances, piping, filter systems, pumps and motors, and other components shall be designed and constructed to provide protection from damage from freezing.”
14. IRC 308.2 Walls: “Walls shall intersect with the floor at an angle or a transition profile. Where a transitional profile is provided at water depths of 3 feet (914 mm) or less, a transitional radius shall not exceed 6 inches (152 mm) and shall be tangent to the wall and is permitted to be tangent to or intersect the floor.”
15. IRC 308.4 Waterline: “The design waterline shall have a maximum construction tolerance at the time of completion of the work of plus or minus 1/4 inch (6.4 mm) for pools and spas with adjustable weir surface skimming systems, and plus or minus 1/8 inch (3.2 mm) for pools and spas with nonadjustable surface skimming systems.”
16. IRC 309.1 Electrically operated equipment: “Electrically operated equipment shall be listed and labeled in accordance with applicable product standards.”
17. IRC 318.1 Makeup water: “Makeup water to maintain the water level and water used as a vehicle for sanitizers or other chemicals, for pump-priming, or for other such additions, shall be from a potable water source.”
18. IRC 318.2 Protection of potable water supply: “Potable water supply systems shall be designed, installed, and maintained so as to prevent contamination from no potable liquids, solids, or gases being introduced into the potable water supply through cross-connections or other piping connections to the system. Means of protection against backflow in the potable water supply shall be provided through an air gap complying with American Standards of Mechanical Engineers (ASME) A112.1.2 and the International Residential Code or the International Plumbing Code, as applicable in accordance with Section 102.7.1.”
19. IRC 321.4 Residential pool and deck illumination: “Where lighting is installed for, and in, residential pools and permanent residential spas, such lighting shall be installed in accordance with NFPA 70 or the International Residential Code, as applicable in accordance with Section 102.7.1.”
20. IRC 323.1 Handholds required: “Where the depth below the design waterline of a pool or spa exceeds 42 inches (1067 mm), handholds along the perimeter shall be provided. Handholds shall be located at the top of the deck or coping.”
21. IRC 323.1.3 Handhold spacing: “Handholds shall be horizontally spaced not greater than 4 feet (1219 mm) apart.”

Barriers

1. All pool/spa facilities shall be protected by barriers complying with the 2021 ISPSC, and the pool barrier should be in place, inspected, and approved prior to filling the pool with water.
2. Section 305, 2021 ISPSC-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.
 - a. 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. The maximum vertical clearance between grade and the bottom of the barrier shall be 2 inches 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.
 - b. Openings in the barrier shall not allow passage of a 4-inch-diameter sphere.
 - c. Solid barriers that do not have openings, such as a masonry or stonewall, shall not contain indentations or protrusions except for normal construction tolerances and tooled masonry joints.
 - d. 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, the horizontal members shall be located on the swimming pool side of the fence. Spacing between vertical members shall not exceed 1.75 inches in width. Where there are decorative cutouts within vertical members, spacing within the cutouts shall not exceed 1.75 inches in width.
 - e. 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, spacing between vertical members shall not exceed 4 inches. Where there are decorative cutouts within vertical members, spacing within the cutouts shall not exceed 1.75 inches in width.
 - f. The maximum mesh size for chain link fences shall be a 1.75-inch square unless the fence is provided with slats fastened at the top or the bottom which reduce the openings to not more than 1.75 inches.

- g. 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 1.75 inches.
- h. Access gates shall comply with the requirements of Sections 305.3.1 through 305.3.3 of the 2021 ISPC 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 and openings shall comply with the following:
 - i. The release mechanism shall be located on the poolside of the gate at least 3 inches below the top of the gate, and
 - ii. The gate and barrier shall have no opening greater than 0.5 inches within 18 inches of the release mechanism.
- i. Where a wall of a dwelling serves as part of the barrier per section 305.4 of the 2021 ISPC, one of the following conditions shall be met:
 - i. The pool shall be equipped with a powered safety cover in compliance with American Society for Testing and Material (ASTM) F 1346; or
 - ii. Openable windows having a sill height of less than 48" 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. The alarm shall be listed and labeled as a water hazard entrance alarm in accordance with UL 2017.
 - iii. Other means of protection, such as self-closing doors with self-latching devices, which are approved by the governing body, shall be acceptable as long as the degree of protection afforded is not less than the protection afforded by the items described above.
- j. Where an on-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, then:
 - i. The ladder or steps shall be capable of being secured, locked, or removed to prevent access, or
 - ii. The ladder or steps shall be surrounded by a barrier, which meets the

requirements of Section 305 of the 2021 ISPSC. When the ladder or steps are secured, locked, or removed, any opening created shall not allow the passage of a 4-inch-diameter sphere.”

3. 305.1 2021 ISPSC Prohibited locations: “Barriers shall be located to prohibit permanent structures, equipment or similar objects from being used to climb them.”
4. 305.1 2021 ISPSC 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.”

Decks

1. IRC 306.1 General: “Decks shall be designed and installed in accordance with the International Residential Code or the International Building Code, as applicable in accordance with Section 102.7.1, except as provided in this section.”
2. IRC 306.2 Slip resistant: “Decks, ramps, coping, and similar step surfaces shall be slip-resistant and cleanable.

Special features in or on decks such as markers, brand insignias, and similar materials shall be slip-resistant.”
3. IRC 306.5 Slope: “The minimum slope of decks shall be in accordance with Table 306.5 except where an alternative drainage method is provided that prevents the accumulation or pooling of water. The slope for decks, other than wood decks, shall be not greater than 1/2 inch per foot (1 mm per 24 mm) except for ramps. The slope for wood and wood/plastic composite decks shall be not greater than 1/4 inch per 1 foot (1 mm per 48 mm). Decks shall be sloped so that standing water will not be deeper than 1/8 inch (3.2 mm), 20 minutes after the cessation of the addition of water to the deck.”
4. IRC 306.7 Concrete joints: “Isolation joints that occur where the pool coping meets the concrete deck shall be watertight”.
5. IRC 306.9 Valves under decks: “Valves installed in or under decks shall be accessible for operation, service, and maintenance. Where access through the deck walking surface is required, an access cover shall be provided for the opening in the deck. Such access covers shall be slip-resistant and secured.”
6. IRC 308.1 Floor slope: “The slope of the floor from the point of the first slope change to the deep area shall not exceed one-unit vertical in three unit’s horizontal (33-percent slope).”

7. 310 2021 ISPSC General – Entrapment Protection for Swimming Pool and Spa Suction Outlets. Suction outlets shall be designed and installed in accordance with American National Standards Institute/Association of Pool and Spa Professionals (ANSI/APSP) 7 and the design must be submitted to County Plan Review for approval. The approved design must be on site for inspection.

Heaters

1. IRC 316.1 General: “The provisions of this section apply to heaters for pools and spas.
Exception: Portable residential spas and portable residential exercise spas.”
2. IRC 316.2 Listed and labeled: “Heaters shall be listed and labeled in accordance with the applicable standard listed in Table 316.2.”
3. IRC 316.3 Sizing: “Heaters shall be sized in accordance with the manufacturer’s specifications.”
4. IRC 316.4 Installation: “Heaters shall be installed in accordance with the manufacturer’s specifications and the International Fuel Gas Code, International Mechanical Code, International Energy Conservation Code, NFPA 70 or International Residential Code, as applicable in accordance with Section 102.7.1.”
5. IRC 316.4.1 Temperature: “A means shall be provided to monitor the water temperature.”

Additional requirements

1. All trenches for gas or electric services for pool equipment shall be inspected prior to burial.
2. All motors must be GFCI protected, as per Article 680.22 of the 2020 NEC. Field verify.
3. All PVC used for electrical piping must be schedule 80 where it is exposed above grade and to at least 18” below grade and must include expansion joints where applicable.
4. All electrical wiring for the pools and spas must be installed per the 2020 NEC.
5. There shall be a pressure test performed and inspected on all gas lines serving pool equipment.
6. All electrical bonding of equipment, metallic devices, pool re-enforcement, etc., must be installed as per Article 680.26 of the 2020 NEC, inspected, and approved prior to concealment.