



RESIDENTIAL SWIMMING POOLS AND SPAS



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A GUIDE FOR HOMEOWNERS

A "Swimming Pool" is any body of water 18 inches or more in depth, including, without limitation, structures intended for swimming or recreational bathing (such as inground and aboveground/onground swimming pools, hot tubs, portable and non-portable spas, fixed-in-place wading pools, or similar structures).

PERMITS REQUIRED

Swimming Pools

The California Building Code states that no person, firm, or corporation shall install any inground swimming pool or any aboveground pool having a capacity of 5,000 gallons or more of water or 24 inches deep without first having obtained a building permit from the Building Official. Regardless of pool size, a permit will be required for any plumbing or electrical work.

Spas and Hot Tubs

Spas and hot tubs, whether permanent or portable, are regulated under the provisions of the National Electrical Code and the Uniform Plumbing Code. An electrical permit is required when an electrical circuit servicing the spa or hot tub is installed. A plumbing permit is required to install a gas line if the spa or hot tub is heated by fuel gas.

HOW TO APPLY FOR A PERMIT

When filing an application for a building permit to install a swimming pool, spa, or hot tub, the applicant shall include 2 complete sets of the following information:

- A plot plan drawn to scale (1/8 inch = 1 inch minimum) showing the relationship of the excavation of the proposed pool to the property lines, all buildings, utilities, and the location of the easements and rights-of-way. Include lot drainage, fence location, location of the pool equipment, and the associated equipment utilities.
- Plans, specifications, and steel schedule (stamped by an engineer) covering the construction and installation of the pool and equipment. Include manufacturer's data on equipment (e.g., heater, diving board, and filter).

STRUCTURAL SURCHARGE

Pool excavation may not encroach below a line extending at a slope of 1:1 downward from the bottom of any building footing or from a property line unless the pool and excavation have been specifically designed by a licensed engineer to accommodate additional surcharge loads. Pool excavations, when adjacent to ascending or descending slopes, shall comply with applicable requirements of CBC Section 1805.

SETBACK REQUIREMENTS

Swimming Pools

Swimming pools shall not be constructed within 20 feet of a front property line; within 15 feet of the street-side property line of a corner lot; or within 5 feet of a rear property line. All setbacks shall be measured from the inside face of the pool wall.

Aboveground/onground pools shall be located on the rear half of the lot and not closer than 5 feet to any side or rear property line. Associated raised decking 18 inches and over above grade must be located a minimum of 5 feet from the property line. Raised decking less than 18 inches above grade must be located a minimum of 18 inches from property lines.

All swimming pools shall be set back a minimum of 5 feet from any residential or accessory-type structure on the property. Furthermore, no portion of an inground pool shall encroach into the area created by an imaginary line traversing at a 45-degree angle away from the bottom of the foundation of any residential or accessory structure unless a supporting engineered wall is constructed in conjunction with the pool.

Filtering systems and heating equipment for all pools shall not be located closer than 30 feet to any dwelling other than the owner's or they shall be enclosed or housed to attenuate noise levels on abutting properties to within the standards of the City's General Plan. In cases where an adjacent residential lot is vacant, the equipment shall be located a minimum of 15 feet from the common sideyard property line or within the rear-yard setback unless the noise is attenuated to within the standards of the City's General Plan.

Swimming pools, pool decking, and mechanical or utility appurtenances for the pool cannot encroach into any open-space easement. Such structures may encroach into a public-utility easement upon first obtaining approval from the City Engineer. If approval is granted, an encroachment permit is required to be issued in conjunction with the swimming pool permit

Spas and Hot Tubs

Unlike permanent spas and hot tubs, which by definition are the same as swimming pools, there are no written regulations which specifically control the location of portable spas and hot tubs placed on the property; however, consideration should be given to the placement regarding the neighbor's property and the possible effects the spa or hot tub could have on the neighbor's privacy. Additional consideration must be given to the proximity of electrical fixtures and outlets, as specified in the National Electrical Code, and gas-fired spa heaters, as regulated by the Uniform Mechanical Code and herewith.

Pool Decking

Uncovered decks and raised patios under 18 inches in height may not be located any closer than 18 inches to any side or rear property line and may project up to 5 feet into a front-yard setback. Uncovered decks and raised patios 18 inches and over in height shall be set back 5 feet from side property lines and 10 feet from rear property lines.

ACCESSORY STRUCTURES

For associated detached patio covers, pool houses, spa enclosures, or other covered structures in excess of 120 square feet or closer than 10 feet to the main structure, consult the Building Division for requirements before installing.

PLUMBING REQUIREMENTS

PVC plumbing pipe, when used in the circulating system, must have a finished grade embedment depth of 12 inches minimum. Risers to the pool equipment may also be plastic PVC if wrapped or painted with latex paint to provide protection from the sun. Connection to a dry well, subsoil irrigation line, or other acceptable drainage system for swimming pool water discharge must be of an indirect-type connection.

POOL ENCLOSURE

Barrier Requirements

An outdoor swimming pool shall be provided with a barrier that shall be installed, inspected, and approved prior to plastering or filling with water. The barrier shall comply with the following:

1. The top of the barrier shall be at least 60 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. The maximum vertical clearance at the bottom of the barrier may be increased to 4 inches when the barrier is mounted on the top of the aboveground/onground pool structure.
2. Openings in the barrier shall not allow passage of a 4-inch diameter sphere.
 - (a) When the barrier is composed of horizontal and vertical members and the distance between the tops of the horizontal members is **less than 45 inches**, they shall be located on the pool side of the enclosure and the vertical members shall not be spaced more than 1.75 inches apart.
 - (b) When the barrier is composed of horizontal and vertical members and the distance between the tops of the horizontal member is **more than 45 inches**, the vertical members shall be spaced not more than 4 inches apart.
3. Chain-link and similar wire-type fences can be used as the barrier. Maximum mesh size for links shall be 2.25 inches squared unless the fence is provided with slats fastened at the top or the bottom which reduce the openings to no more than 1.75 inches.
4. Solid barriers that do not have openings, such as masonry or stone walls, shall not contain indentations or protrusions which render the barrier easily climbable.
5. Access gates shall comply with the requirements of Sections 1 through 4. Pedestrian-access gates 4-foot-wide and less (pedestrian) shall be self-closing, have a self-latching device, and shall accommodate a lock. Where the release mechanism of the self-latching device is located less than 60 inches from the bottom of the gate: (1) the release mechanism shall be located on the pool side of the barrier at least 3 inches below the top of the gate and (2) the gate and barrier shall have no opening greater than ½ inch within 18 inches of the release mechanism. Pedestrian gates shall swing away from the pool. Any gates other than pedestrian-access gates shall be equipped with lockable hardware or padlocks and shall remain locked at all times when not in use and shall be located next to a compliant pedestrian-access gate.
6. Where a wall of a Group R, Division 3 Occupancy dwelling unit serves as part of the barrier and contains door openings between the dwelling unit and the outdoor swimming pool which provide direct access to the pool, a separation fence meeting the requirements of Sections 1 through 5 above shall be provided.

EXCEPTIONS: When approved by the Building Official, one of the following may be used:

- (a) Self-closing and self-latching devices installed on all doors with direct access to the pool, with the release mechanism located a minimum of 60 inches above the floor and open away from the pool.
- (b) A listed pool door alarm installed on all doors with direct access to the pool. The alarm shall sound continuously for a minimum of 30 seconds immediately after the door and its screen, if present, are opened and be capable of providing a sound pressure level of not less than 85 dB^A when measured indoors at 10 feet. The alarm shall automatically reset under all conditions. The

alarm system shall be equipped with a manual means, such as a touch pad or switch, to temporarily deactivate the alarm for a single opening. Such deactivation shall last no longer than 15 seconds. The deactivation switch shall be located at least 54 inches above the floor.

- (c) The pool shall be equipped with an approved safety cover.
- (d) Other means of protection may be acceptable, so long as the degree of protection afforded is not less than that afforded by any of the devices described above.

SWIMMING POOL HEATING

Swimming pools and spas which are heated by gas-fired heaters must conform to the provisions of the Uniform Plumbing Code; Mechanical Code; and the California State Code of Regulations, Titles 20 and 24, including:

- A thermal efficiency for gas-fired systems of at least 78 percent.
- The heating system must be equipped with an on/off switch that turns the heater on and off without the need to change the thermostat setting.
- No pilot light for the heater.
- A time clock which allows the circulation pumps to run in the off-peak electric-demand period.
- A 36-inch minimum length of plumbing between the filter and heater to allow for the possible addition of solar heating equipment.
- A permanent weatherproof placard that gives instruction for the energy-efficient operation and proper care of pool/spa water when a cover is used.
- Outdoor pools must be equipped with a manufactured pool cover.
- The pool heater venting system shall terminate not less than 4 feet below or 4 feet horizontally from, nor less than one foot above a door or window, nor less than 3 feet above or 10 feet horizontally from any forced air inlet, and not less than 4 feet from any of the property lines.

UTILITY SETBACKS

Overhead electrical conductors create a safety hazard if a swimming pool is incorrectly installed adjacent to or underneath an electrical conductor.

Conductors running overhead must have a minimum vertical clearance of 22.5 feet from the pool and must not pass over the diving board unless specified in Section 680-8 of the National Electrical Code.

Telephone lines and cable television systems may pass over the pool if a 10-foot vertical clearance is maintained above the pool, diving board, or platform.

Underground wiring or piping not associated with the operation of the pool shall not be permitted underneath the pool or within 5 feet horizontally from the pool walls.

CONVENIENCE OUTLET

At least one 125-volt GFCI outlet shall be located a minimum of 10 feet from, and not more than 20 feet from, the inside wall of the pool. Provide 5 feet minimum to 10 feet maximum for spas and hot tubs.

A SWIMMING POOL REQUIRES:

- **A pre-gunite and pre-deck inspection** to check setback requirements, steel placement, positioning of the equipment pad, electrical bonding of the steel, electrical conduit, and circulating system piping and to identify possible lot drainage and grading problems. If a pool heater is used, a gas test is required.

- A **pre-plaster inspection** to check for the installation of a permanent fence, gate, and alarms, bonding of a potting compound of the underwater light niche, and the preparation of the gunite pool for plastering. (Luminaries shall be on deck or suitable dry location.)
- A **final inspection** to check the installation of electrical circuits, circulating pumps, filters, and timers and to determine if all work under the pool permit is complete. If a pool heater is used, check the installation and check for a pool cover.

A PORTABLE SPA REQUIRES:

- A rough electrical inspection to check compliance with the National Electrical Code for dedicated circuits and for required clearances.
- A final inspection to determine that all work is completed, that a fence or locking cover is installed, and that the spa is operating correctly.

When working across or within a public easement, contact the Development Services Department for information and Encroachment Permit requirements.