



Swimming Pools, Hot Tubs, & Spas

Rev. 02/2023

Purpose

This handout establishes a procedure for complete plan review submittals for proposed swimming pools, hot tubs and spas in private residential single-family homes (Group R-3 Occupancies). The Planning Division, Engineering Division, and Building Division will review the plans prior to the issuance of a permit or the commencement of any work.

Permits Required

A building permit is required for the following type of construction:

- Indoor and outdoor swimming pools
- In-ground and above-ground spas or hot tubs
- Prefabricated pools entirely above-ground with a capacity greater than 5,000 gallons

Definitions

Approved Safety Pool Cover – a manually or power-operated safety cover that meets all of the performance standards of the American Society for Testing and Materials (ASTM), in compliance with Standard F 1346-91.

Enclosure – a fence, wall or other barrier that isolates a swimming pool from access to the home.

Exit Alarms – devices that make audible, continuous alarm sounds when any door that permits access from the residence to the pool area that is without any intervening enclosure, is opened or is left ajar. Exit alarms may be battery operated or may be connected to the electrical wiring of the building.

The alarm shall sound continuously for a minimum of 30 seconds within seven seconds after the door and its screen, if present, are opened, and be capable of providing a sound pressure level of not less than 85 dbA when measured indoors at 10-ft. The alarm shall automatically reset under all conditions; it shall be equipped with a manual means, such as a touchpad or switch, to temporarily deactivate the alarm for a single opening. Such deactivation shall not last longer than 15 seconds. The deactivation switch shall be located at least 54-in above the threshold of the door.

Swimming Pool or Pool – any structure intended for swimming or recreational bathing that contains water over **18-in deep**. This includes in-ground, above-ground, and on-ground swimming pools; hot tubs; portable and non-portable spas; and fixed in-place wading pools.

Safety Features

Whenever a permit is issued for construction of a new or alterations to an existing swimming pool at a private, single-family home, it shall be equipped with at least 2 of the safety features listed in the **2022 CRC APPENDIX AX**.

AX100, 115922

1. The pool shall be isolated from access to a home by an enclosure (See AX100, 115923 for enclosure requirements).
2. Removable mesh fencing that meets ASTM specifications F2286 standards in conjunction with a gate that is self-closing and self-latching and can accommodate a key lockable device.
3. The pool shall be equipped with an approved safety pool cover.
4. All doors providing direct access from the home to the swimming pool shall be equipped with exit alarms on those doors providing direct access to the pool.
5. All access gates shall be equipped with a self-closing, self-latching device with a release mechanism placed no lower than **60-in** above the floor on the private single-family home's doors providing direct access to the swimming pool or spa. 115923. (a)
6. An alarm that when placed in a swimming pool or spa will sound upon detection of accidental or unauthorized entrance into the water. ASTM Standard F2208

7. Other means of protection, if the degree of protection afforded is equal to or greater than that afforded by any of the devices listed above.

Exempt Facilities* - safety features do not apply to any of the following: public swimming pools; hot tubs or spas with locking safety covers that comply with the American Society for Testing Materials – Emergency Performance Specification (ASTM-ES 13-89).

Pool Enclosures: Design and construction of swimming pool enclosures shall be based on the **2022 California Building Code (CBC) Section 3109, 2022 California Residential Code (CRC) Appendix AX, 2022 California Electrical Code (CEC) Article 680**. An enclosure shall have **all** of the following characteristics:

1. Any *access gates* through the enclosure shall open **away** from the swimming pool and be **self-closing** with a **self-latching** device placed no lower than **60-in** above the ground.
2. A minimum height of **60-in** for Residential. **2022 CRC AX100, 115923**
3. A maximum vertical clearance from the ground to the bottom of the enclosure of **2-in**.
4. Gaps or voids, if any, do not allow passage of a sphere equal to or greater than **4-in** in **diameter**.
5. An outside surface free of protrusions, cavities or other physical characteristics that would serve as handholds or footholds that could enable a child below the age of five years to climb over.

Agreements to Build & Notice of Provisions: 2022 CRC AX100,115924

Any person entering into an agreement to build a swimming pool shall give the consumer notice of the requirements of this article (*Health and Safety Code Section 115924; AB 3305, Statutes 1996, C.925*).

Plan Submittal for Construction (electronic submittal only)

- A complete set of plans must be submitted; a completed Application for Permit form and plan check fee paid. Upon submittal of plans, they will be distributed to Planning, Public Works, and Building for review.
 - **Size:** Minimum 11” x 17” (maximum 18” x 24” plans drawn to scale, fully-dimensioned, and legible).
- Stamped and signed calculation reports and steel schedules prepared by a professional engineer licensed in the State of California.

Plan Review Timelines

Allow a minimum of **15** business days for the first plan review for swimming pools and spas provided the submitted information is complete. If the plans do not conform to the above requirements (such as for new products or alternative engineering practices), allow a minimum of **15 (15)** business days for the first plan review; **ten (10)** business days for any subsequent reviews.

Fees

Building fees are based on the total value of all construction work (including labor and materials.) Consult with a permit technician for details.

Code Requirements / Information

Swimming Pools

1. **Site plan** – lot dimension, location of all existing building structures, public utility easements, any existing/proposed retaining walls and drainage.
 - a. Setback distances from all property lines and building structures to the swimming pool; include any glazing surfaces (*provide tempered glazing for windows and doors less than 60-in above the pool side and within 5-ft to water’s edge of pool*).
 - b. There shall be a distance of at least four (4) feet between any unit and any side or rear property line and at least five (5) feet between a pool and any other structure
 - c. Enclosure information such as fences, gates, doors exiting to pool area - including garage doors - and exit alarm mechanism.
 - d. Location of pool equipment (*4-ft minimum to adjacent property lines*), disconnects and breaker size; receptacle outlets within 20-ft of the pool; type of conduit (*metal or plastic*); existing service panel and amperage (*underground or*

overhead); location and size for gas meter; call out if pool equipment is enclosed and if so is it a soundproof enclosure-include dimensions of enclosure. All pool equipment shall meet the requirements of C.S. 25.58.050 as follows:

- Mechanical equipment may only be located in the rear seventy-five (75) percent of the lot;
 - Mechanical equipment shall not be located within the front yard between the building and the property line;
 - Mechanical equipment shall be screened from view from any portion of adjacent streets by fences or hedges;
 - Mechanical equipment shall not be mounted on sloping roofs. Mechanical equipment may be mounted on flat roofs with prior approval by the Planning Division provided the equipment is concealed with solid screening that is integrated into the overall architectural design;
- e. Equipment shall not exceed a Maximum Outdoor Noise Level (dBA) of sixty (60) dBA Daytime (7:00 a.m. – 10:00 p.m.) or fifty (50) dBA Nighttime (10:00 p.m. – 7:00 a.m.) as measured from the property line. Location of A/C or other mechanical equipment within proximity of pool location (*5-ft minimum distance **OR** be separated by a permanent barrier*)
- f. Location of hose bibs within 20-ft of the pool.
- g. Depth of pool.
2. **Structural plans** – construction details and steel schedule wet-stamped and signed by a licensed engineer.
3. **Approvals** – approval from Home Owners Association is highly recommended.

Self-contained (Portable) Hot Tubs & Spas

1. **Site plan** – label all property lines and include lot dimensions and label front/side/rear, location of all existing building structures, easements and other utilities.
- Setback distances from all property lines and building structures to the hot tub/spa.
- If the self-contained spa or hot tub is equipped with a listed safety cover, the enclosure requirements noted above are *exempted*.
- Location of disconnects and breaker size; receptacle outlets within 20-ft of the hot tub/spa; type of conduit (*metal or plastic*); existing service panel and amperage.

Inspections

1. Swimming Pools

- **Pre-gunite:** Structural check involves location, excavation and steel placement; equipment pad; grading and removal of excess soil.
- Plumbing check involves return line, fill line and all other piping (minimum 35# psi test pressure); gas piping installation and test (minimum 10# psi test pressure); any sewer or water line reroute. Allow a soil embedment depth of 12-in when using plastic PVC in the circulating system, painted with latex paint to provide protection from sun. A direct connection between any storm drain, drainage system, drywall or subsoil irrigation line connected to a pool is not allowed. Any discharge from the swimming pool for the purpose of lowering the water level, must be from a hose connected to a hose bib on the filter or separation tank with drainage to an acceptable location.
- Electrical check involves service drop clearance requirements; bonding of pool or spa steel, underwater light fixture forming shells, diving boards, slide, fill line, equipment and metallic objects located within 5-ft of inside walls of pool or spa; electrical conduit; verify approved listings for underwater light fixtures forming shells - these are installed with the top of the fixtures at least 18-in below normal water level, unless identified at a depth not less than 4-in.
- Provide fence and gate requirements to property owner.

Fiberglass and vinyl liner pools must have alarms and barriers at this time.

- **Pre-deck:** All plumbing and electrical installed, final bonding of diving board (if any), grab rails and slides, disabled access inserts and rope ties; deck steel bonding.
 - **Pre-plaster:** Electrical check involves underwater light fixtures forming a shell, proper grounding, listed potting compound, encapsulating and covering requirements; required circuits GFCI protected; if fiber optics is used and equipment set, the pool can be finished at this time.
- Prior to filling pool with water, ensure all barrier elements are installed (i.e., fence, gates, alarms on doors).
- **Sign off for barrier requirements is required prior to plastering of pool/spa.**

- **Final:** Building check includes sidewalks; final grading; location of equipment in conjunction with property lines, structures and windows.

Plumbing check inspection for all exposed piping to detect any leaks; approved gas valve; T & P relief valve on heater (if required) and termination of drain; equipment is secured to equipment pad; compliance with State energy laws and solar (if any); proper gas connector; prepare PG&E utility tag.

Electrical check inspection for complete grounding and bonding; main panel indexed at breakers; proper operation of switches and receptacles; installation of time clocks; proper wire and breaker sizing; required pool/spa circuits GFCI protected; pool light has low water cutoff.

No excavation or structural portion of the pool to be located in any Public Utility Easements.

2. Self-contained (Portable) Hot Tubs & Spas

- **Pre-cover:** Required if any plumbing (gas line) or electric lines are placed underground.
- **Final:** Enclosure requirements such as fence, gates, alarm, doors OR locking safety covers; all equipment operational.

Swimming Pools, Hot Tubs & Spas Checklist

Quantity of Plans

- Three (3) complete sets of stamped and wet-signed plans including construction details/steel schedule with a Site Plan attached to each set.

Site Information

Site Plan to include the following items:

- Dimensions of all property lines - label all property lines front/side/rear, location of all existing building structures, easements and other utilities.; north arrow; distance between the pool/spa and the property lines.
- Location of pool equipment (see Code Requirements /Information above).
- Location of A/C or other mechanical equipment within proximity of pool must be a minimum distance of **5-ft, OR** be separated by a permanent barrier. CEC 680-27(B) (1)
- Location and type of electrical service (underground or overhead).
- Distance between pool and house as well as any glazing surfaces, including windows and doors of residence (**tempered** glazing for windows and doors less than 60-in above the pool side and within 5-ft to water's edge of pool).
- Location of electrical panel and gas meter.
- Exit alarms** for any doors leading from the dwelling to the pool area, including garage doors.
- Pool fencing indicating height of fence, height of gate latch, direction of gate swing (must swing **away** from pool) and indication that fence gate is **self-closing** and **self-latching** (vehicle gates leading to pool area must also be self-closing). If fencing is other than a wood-fence, it must be no more than 2-in from the adjacent ground and have rails spaced no more than 4-in apart.
- Show **depth** of the pool.

Structural Information

- Construction details/steel schedule; structural details appropriately highlighted. Two sets of Structural Plans stamped and wet-signed by a California licensed engineer.