



Building Division

Swimming Pool Advisory

Construction Requirements for Swimming Pools, Spas and Hot Tubs

This Advisory is for private pools located at single-family dwellings. Commercial, public or common use pools have additional requirements and (5) sets of plans must be submitted for plan check. An “over the counter” review is not available for public pools.

References: This handout is based on the 2016 edition of the California Building Standards Code (California Code of Regulations, Title 24), California Health and Safety Code, and Corona Municipal Code.

Swimming Pool or **Pool** means any structure intended for swimming or recreational bathing that contains water over 18 inches deep. “Swimming Pool” includes in-ground and aboveground structures and includes, but is not limited to, hot tubs, spas, portable spas and non-portable wading pools. *California Health and Safety Code 115921(a)*

A. Permits Required – A Swimming Pool permit shall be obtained from the Building Department. (See pool submittal requirement Checklist attached)

1. Submittal Documents

a.) **Site Plan** – Three copies shall be submitted, and shall include the following:

- 1.) Provide property identification information (Tract & lot number; address).
- 2.) Show ALL property lines and dimensions.
- 3.) Indicate the location of all streets and alleys.
- 4.) Show all existing and proposed buildings and structures.
- 5.) Location of any slopes on or adjacent to the subject property (include height and grade of the slope).
- 6.) Show proposed pool, spa or hot tub location. Include any features such as slides, grottos, raised walkways and decking within 5 ft. of pool.
- 7.) All setbacks from the inside edge of the pool (or spa) to the property lines and any existing or proposed structures.
- 8.) Detail fencing, showing that it will meet minimum pool barrier requirements.
- 9.) Show the proposed location of the pool equipment and the size and location of any sound walls, if required, and construction method.
- 10.) Show location of any overhead and underground conductors. Conductor clearance shall be observed in accordance to CEC sections 680.8 and 680.10
- 11.) Show the location, size and type of materials for any gas, water and electric lines (include pipe sizes, conduit sizes, conductor types and sizes, and over-current device sizes and disconnect locations).
- 12.) An electrical panel load calculation justifying the additional electrical load will be required to be submitted for review.
- 13.) Show the location and size of the gas meter.

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- 14.) Show the location and size of the electric service.
 - 15.) Show the location and BTU demand of any heating equipment.
 - 16.) Show the location of the filter equipment.
 - 17.) Show a profile of the pool or spa showing depths and section lines.
 - 18.) Provide the property owners information (including name, address and phone number).
 - 19.) All plans shall be drawn legibly.
 - 20.) Please submit the completed Pool Submittal Checklist.
- b) **Structural Plans** – Two copies shall be submitted, and shall include the following:
- 1.) Diagrams of the pool, spa, hot tub or other structures requiring permits.
 - 2.) Specifications and details.
 - 3.) Engineering calculations.
 - 4.) Soils investigation report, if required by the City Building Official.
 - 5.) Special inspection and structural observation programs, if required. (Note: Continuous special inspection is required for public pools and for special cases.)
 - 6.) Plans shall be legible.
 - 7.) A licensed architect or engineer shall prepare the plans and provide wet stamp and signature.

B. Location Restrictions

1. Pool, Spa or Hot Tub

- a.) Shall not be located in a front yard setback. (C.M.C. 17.64.040.B.1)
- b.) Shall be no closer than seven (7') feet from the top of a slope, unless designed to support the water in the pool without soil support. (California Building Code (C.B.C.) 1808.7.3)
- c.) Shall be no closer to the toe of a slope (that is steeper than 1 in 3 units) than the height of the slope divided by four (H/4), unless designed for the loads imposed. (C.B.C. 1808.7)
- d.) Shall comply with all approved engineering details regarding location and surcharges.

2. Mechanical Equipment

- a.) Pumps and filters shall be located not less than ten (10') feet from an adjoining property line. (C.M.C. 17.84.040.D.1)
Exception: Where a minimum five (5') foot high block wall, that extends two feet on each side of the equipment, is situated between the equipment and the adjacent property. (C.M.C. 17.84.040.D.1)
- b.) Gas pool/spa heating equipment shall be installed in accordance with the California Mechanical Code (CMec) and the California Plumbing Code (CPC). Gas pool/spa heating equipment shall:
 - 1.) Be installed in accordance with the manufacturers' installation instructions. (California Mechanical Code 928.5)
 - 2.) Have a venting system that terminates not less than four (4') feet below or four (4') feet horizontally from, or not less than one (1') foot above a door, an openable window or a gravity air inlet into a building. (California Mechanical Code 802.8.1)

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- (plans must show any existing windows and/or doors)
- 3.) Have the vent termination at least eight (8') feet from a vertical wall and in accordance with the manufacturers installation instructions when a listed venting system is used (CMec 802.6.2)

C. Electrical Equipment

1. Electrical materials and equipment shall be installed in accordance with the California Electrical Code (CEC)
2. Electrical equipment shall be acceptable only if approved and shall be installed and used in accordance with any instructions included in the listing or labeling. (C.E.C. Article 110.3)
3. Electrical sub-panels shall be provided with a minimum 30 inches wide by 36 inches deep unobstructed working area as required by the CEC Article 110.26.
4. Rigid P.V.C. electrical conduit does not provide the support for electrical equipment, panel boards or junction boxes required by CEC Article 314.23 & Article 352
5. An equipotential bonding grid must be provided and must extend under any paved or unpaved surfaces within 3 ft of the pool. This requires steel reinforcing to be placed in the concrete deck within 3 ft of the pool and connected to the bonding grid in at least 4 points. (CEC Article 680.26)
All pool deck reinforcing steel within 5 ft must be connected to the bonding grid.

D. Plumbing Installations

1. All plumbing materials and installations shall conform to the California Plumbing Code and I.A.P.M.O. Installation Standards (IS).
2. Gas Piping
 - a.) Plastic gas piping
 - 1.) Shall have at least eighteen (18") inches of earth cover or other equivalent protection. (C.P.C. 1210.1.1)
 - 2.) Shall have an electrically continuous corrosion resistant tracer wire (minimum AWG 14) installed with and attached to the underground plastic gas piping and shall terminate above grade at each end. (C.P.C. 1210.1.7.2)
 - 3.) Transitions to ferrous piping shall be by listed and approved transition fittings. {IS 12}
 - 4.) Shall be installed in accordance with the Installation Standards and the manufacturers installation requirements (IS 12)
 - 5.) Provide a metal tag at the meter end stating "Plastic Yard Piping" (IS 12-2.10.3)
 - 6.) Shall not be installed under buildings or structures including patio covers, balconies, porches etc. unless installed per CPC 1210.1.6 - Piping Underground Beneath Buildings.
 - b.) Metallic gas piping
 - 1.) Shall have at least eighteen (18") inches of earth cover or other equivalent protection. (C.P.C. 1210.1.1)
 - 2.) Shall be protectively coated by an approved type of machine applied protective coating. Fittings and damaged coating shall be field wrapped in accordance with I.A.P.M.O. Installation Standards. (C.P.C. 1208.5.6 IS 13-2003)
 - 3.) Shall not be installed under buildings or structures including patio covers, balconies, porches etc. unless installed per CPC 1210.1.6 - Piping Underground Beneath Buildings.

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- c.) All gas piping shall be tested with an air, CO² or nitrogen pressure test of at least ten pounds per square inch (10 psi) for not less than fifteen minutes (15 min.) per CPC 1213.3

- 3. Drains and Anti- Entrapment Devices
 - a.) All pool suction outlets must be designed and installed in accordance with ANSI/APSP-7 and shall be covered with anti-entrapment grates as specified in ANSI/APSP-16 that cannot be removed except with the use of tools.
Standard A112.
 - b.) Two anti-vortex drains shall be provided for each pump and shall be hydraulically balanced and symmetrically plumbed through “T” fittings. Drains shall be separated by three feet minimum.
- 4. Water Piping.
 - a.) All potable water hose bibbs shall have non-removable anti-siphon devices installed.
(CPC 603.5.7)
 - b.) All non-potable water piping systems shall have a sign at each outlet stating:
“Caution: Nonpotable Water, Do Not Drink” (CPC 603.5.11)
- 5. Waste Water Disposal
 - a.) Prior to draining any pool, contact City of Corona Source Control at 951-736-2476. A water quality inspection may be required.
 - b.) The installation of a “P” Trap, connected to the sanitary sewer system, used to drain the pool or backwash filters is prohibited, unless specifically approved by the City of Corona, Utilities Department.
 - c.) Reusable, cartridge or diatomite type filters with a separation tank is encouraged as a water conservation measure.

E. Barriers for Swimming Pools, Spas and Hot Tubs.

The pool barrier shall comply with the following:

- 1. The top of the barrier shall be at least 5 feet (60”) above grade measured on the side of the barrier that faces away from the pool. The maximum vertical clearance between grade and the bottom of the barrier shall be 2 inches. The maximum vertical clearance may be increased to 4 inches when grade is a solid surface such as a concrete deck, or when the barrier is mounted on the top of an aboveground pool structure. When the barrier has horizontal members spaced less than 45 inches apart, the horizontal members shall be placed on the pool side of the barrier. Any decorative design work on the side away from the pool, such as protrusions, indentation or cutouts, which render the barrier easily climbable, is prohibited.
- 2. Openings in the barrier shall not allow passage of a 1¾ inch diameter sphere. Exception: The opening size may be increased such that the passage of a 4-inch diameter sphere is not allowed if:
 - a.) The vertical spacing between such openings is 45 inches or more, or
 - b.) The fencing is composed of vertical and horizontal members and the distance between the horizontal members is 45 inches or more.
- 3. Existing chain link fences used as barriers shall not be less than 11 gauge with openings no more than 1 ¾”. Planning approval and a Building permit are required for new chain link fencing.
- 4. Access gates shall comply with items 1 through 3 above. Pedestrian gates shall be self-closing and have a self-latching device. Where the release mechanism of the latching device is located less than 60 inches above the ground, then:

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- a.) The release mechanism shall be located on the pool side of the barrier at least 3 inches below the top of the gate, and
- b.) 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 other gates, such as vehicle access gates, shall be equipped with lockable hardware or padlocks and shall remain locked at all times when not in use.

5. All doors that provide direct access from the home to the pool area shall be equipped with exit alarms listed and labeled to UL 2017, or shall be equipped with a self-closing, self-latching device with a release mechanism placed no lower than 54 inches above the floor. *Access to the house and garage must be provided for inspection of pool barrier requirements.*
6. Where an aboveground 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:
 - a.) the ladder or steps shall be capable of being secured, locked or removed to prevent access, or
 - b.) the ladder or steps shall be surrounded by a barrier that meets the requirements of items 1 through 5 above. When the ladder or steps are secured, locked or removed, any opening created shall be protected by a barrier complying with items 1 through 5 above.
7. Indoor swimming pools shall comply with item 5 above.
8. *Self-contained* spas or hot tubs equipped with a listed safety cover, complying with ASTM ES 13-89, shall be exempt from the above listed barrier requirements.
9. See California Health and Safety Code section 115922 for additional drowning prevention safety features that may be required such as an approved safety cover, pool alarms placed in the water, or mesh pool fencing.

F. Placement of Sand and Building Materials in the Public Street

When constructing swimming pools and large spas, due to site constraints it may sometimes be desired to place sand or other building materials in the public street or sidewalk, temporarily. **This practice is prohibited unless the pool builder has first obtained an encroachment permit through the Development Services Division.** This practice of placing materials within public rights-of-way, if not done per the proper standards, can create a traffic hazard which endangers not only motorists and pedestrians, but the pool builder's employees who may be operating equipment next to the sand pile.

To eliminate these hazardous occurrences, the pool builder should contact Development Services at 951-736-2259 prior to ordering any material deliveries. An encroachment permit may be obtained at the Development Services front counter at City Hall. Once an encroachment permit has been issued, please notify any adjacent home owners of the material delivery or construction activity several days prior to the activity taking place.

G. Glass Adjacent to Swimming Pools

Per CBC 2406.4.5, any glazing within 5 feet of the water's edge and with a bottom edge less than 60 inches from grade shall be:

1. Tempered glass.

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2. Protected with window film which meets ANSI Z97.1 and is **APPROVED** by the Corona Building Official. Proof of material listing and proper installation requirements shall be provided to the Building Inspector at the time of inspection.
3. Made safe by other approved methods of equivalent protection as determined by the Building Official.

H. Inspection Requirements

If a soils report is required by the engineer or the Public Works Department this must be completed prior to the start of construction and reviewed by the engineer and Public Works Dept. An approved copy of the report must be submitted with the plans for plan check approval.

The City Stamped approved plans, the Permit Inspection Card, and any previous Correction Notices must be available on the job site for all inspections. These documents must be protected from weather conditions to maintain them in a legible condition.

The following is a list of required inspections for construction of typical swimming pool projects:

1. Pregunite- Steel, Main Drain Plbg, Electrical Bonding, Approval to Cover
2. Underground Electric
3. Underground Gas Piping and Gas Test
(Inspections 1 through 3 should be scheduled at the same time)
4. Pre-Deck (equipotential bonding)
5. Rough Electrical, Rough Plumbing, Rough Mechanical
6. Pool Barrier- Must provide access to house and garage to verify alarms
7. Finish Plaster Coat Approval
(Inspections 5 through 7 must be scheduled at the same time)
8. Pool Final

I. Worksite Safety

The construction worksite must be maintained in a safe condition and a safe path of access must be provided for the Building Division Inspection staff.

Any questions concerning these requirements may be referred to the City of Corona Building Division by calling (951) 736-2250 or emailing BuildingPlanCheck@CoronaCA.gov



SWIMMING POOL PLAN SUBMITTAL CHECK LIST

Policy (Effective Date – October 1, 2005): The City of Corona Building Division will make every effort to issue a swimming pool permit same day of application with an “over the counter plan check.” To accomplish this task, the permit applicant must provide complete plans and documents as listed below. The applicant must fill out an application with an accurate scope of work and obtain approval from the Development Services & Planning Divisions prior to submitting to the Building Division. Any structures shown on the pool site plan, but not included on the permit description are not part of the permit issued. Failure to provide any of the requested information below will be deemed an incomplete submittal and will not be accepted for permit issuance.

Minimum Submittal Documents Necessary to Obtain a Pool Permit

Site Plan – Three complete copies shall be submitted to include the following (Check box if yes **to be completed by the Building Division.**):

- Provide property identification information (Tract & lot number, address & contact phone number).
- Provide the property owner’s information (Name, address, and phone number).
- Show ALL property lines with their dimensions.
- Plot location of all streets and alleys.
- Plot any easements.
- Show all existing and proposed buildings and structures including block walls and retaining walls with distance to the pool, the property lines, and all other structures.
- Show the location of any slopes on or adjacent to the subject property (include height and grade of the slope).
- Plot the proposed pool, spa and/or hot tub location.
- Include the location of any special engineering details and the location of all rock features, slides grottos, raised bond beams, stairways, paved decking, etc.
- Show all setbacks from the inside edge of the pool and/or spa to the property lines and any existing or proposed structures.
- Plot Site Access location and list any access fences/walls to be reconstructed.
- Fencing to meet minimum pool barrier requirements (attach swimming pool advisory).
- Show an accurate proposed location for the pool equipment, including all pumps and filter equipment. If applicable, show the size, location and type of any sound walls.

- Show an accurate location of the gas meter, gas lines, gas pipe material & size, total BTU count of gas run, & total lineal footage of gas line.
- Plot location of electrical service run to include location of electrical service, conductor type, conduit size, breaker size & location of any overhead conductors.
- List any special inspection or structural observations required.
- Plot any BBQ's, Fire pits or fire bowls. Provide total BTU count for each. **Note:**
BBQ islands including sinks will require plan review.
- Plans must be legible.
- Site plan must be stamped by the engineer of record.

Structural Plans – Two copies of engineering plans prepared by a licensed architect or engineer shall be submitted and shall include the following: (Check box if yes.)

- Provide two copies of structural diagrams and details of the pool, spa, hot tub or other structures requiring permits.
- Provide structural diagrams and details for rock features, slides, grottos etc...., shown on the pool site plan.
- Provide associated engineering calculations (if required) for review.
- Provide soils report (if required).
- Structural submittals must be legible.

Structures shown on pool site plans such as block walls, retaining walls, patio covers, balconies, etc...., that are not included in the Building Permit description are not part of the Building Permit issued.