City of San Juan Capistrano
Development Services Department
32400 Paseo Adelanto
San Juan Capistrano, CA 92675
Phone: (949) 493-1171
Fax: (949) 661-5451
http://www.sanjuancapistrano.org/

C-7: 1-14

A. REFERENCES:

1. 2013 California Building and Residential Codes (CBC, CRC)
2. San Juan Capistrano Municipal Code (SJCMC)
3. 2006 Uniform Swimming Pool, Spa and Hot Tub Code
4. 2013 California Electrical Code (Article 680)

B. GENERAL REQUIREMENTS:

*Planning Department approval is required and must include pool equipment location and the location of all existing and/or proposed pool barriers (fences/walls).
*Soil reports are required for all pool and spa installations.
*The sulfate content in San Juan Capistrano is generally "severe" as categorized by the California Building Code section 19 and Table 19-A-4.
*Shotcrete concrete shall have a compressive strength of 4500 psi, a water-cement ratio of 0.45 and type V cement. (Unless a soils report recommends and alternate strength). Special inspection is required for shotcrete applications over 2500 psi.

SJCMC section 8-6.03. requires that all swimming pools proposed to be heated shall be equipped with a solar pool heating system, installed in accordance with the manufacturer's specifications and the 2006 Uniform Swimming Pool, Spa & Hot Tub Code.

****Refer to the attached Photo-Voltaic handout for suggested installation****

C. BARRIERS FOR POOLS, SPAS AND HOT TUBS:

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 body of water. The maximum vertical clearance between the grade and the bottom of the barrier shall be 2 inches. (CBC section 3109.4.1)

Openings in the barrier shall not allow passage of a 4 inch sphere. (Section 3109.4.1.1)

The maximum mesh size for chain link fence shall be 2.25 inches square unless the fence is provided with slates fastened at the top or bottom which reduce the openings to no more than 1-3/4 inch. (Section 3109.4.1.5)

Access gates shall comply with the requirements of Sections 3109.4.1.1 through 3109.4.1.6 and shall be equipped to accommodate a locking device. Pedestrian access gates shall open outward away from the pool and shall be self-closing with self-latching device located at least 54 inches from the bottom of the gate.

Where a wall of a dwelling serves as part of the barrier, **one** of the following shall apply:

1. All doors with direct access to the pool/spa through that wall shall be equipped with an alarm that produces an audible warning when the door is opened. The alarm shall be listed in accordance with UL 2017. The audible alarm shall activate within 7 seconds and sound continuously for a minimum of 30 seconds immediately the door is opened. The alarm shall be equipped with a manual means to temporarily deactivate the alarm for a single opening. The deactivation switch shall be located at least 54 inches above the door threshold.

2. The pool shall be equipped with a power safety cover that complies with ASTM F 1346.

D. PLUMBING GUIDELINES:

Listed plastic non-threaded circulation pipe between the mechanical equipment and pool shall not be less than schedule 40. Threaded circulation pipe shall not be less than schedule 80. The entire system shall be tested and must hold a static water or air pressure of not less than 35 psi for 15 minutes. A minimum of two outlets are required and must be separated by a minimum of three (3) feet.

E. GAS PIPING GUIDELINES:

Metallic piping installed underground is prohibited by City Ordinance 8.02.190. Non-metallic pipe shall conform to ASTM D 2513. Pipe to be used shall be marked “gas” and “ASTM D 2513”. Joints and fittings should be joined in accordance with the manufactures instructions. Piping shall be buried a minimum of 18 inches below grade. Test pressure is 1-1/2 times the working pressure with a minimum of 3 psi for a duration of 10 minutes. A copper tracer wire (minimum 14 AWG) shall be installed.

F. ELECTRICAL GUIDELINES:

All electrical work shall comply with Article 680 of the California Electrical Code. Permanently installed pools/spas shall have at least one 125-volt convenience receptacle located a minimum of 10 feet from and not more than 20 feet from the inside wall of the pool/spa. Where rigid non-metallic conduit is used, a No. 8 AWG conductor shall be installed. Junction boxes shall be located four feet minimum from pool and eight inches minimum above flood level or ground level, whichever is greater. Pool light branch circuit is to be GFCI protected. All metal parts or components within five feet of the inside wall of the pool/spa the housing and the junction box thereof shall be bonded with a No. 8 AGW un-spliced solid copper conductor and a minimum of 9 square inches of bonding surface shall be in the pool water-example metal ladder-980.26(C). Electrical conduit may be P.E. schedule 40 for below grade applications. The conduit must be a minimum of 18 inches deep. The conduit must be UL listed. Above ground applications may be P.E. schedule 80 sunlight resistant, or rigid galvanized steel.

G. DEMOLITION GUIDELINES:

All water lines, electrical circuits and other utilities must be removed and capped or terminated as required by applicable codes. Structural fill shall be placed in shallow lifts and compacted to a minimum of 90% and requires the inspection and certification of a registered geologist. Inspections are also required by a City Building Inspector to verify the termination of utilities and structural fill. A compaction report is required at final inspection. Non structural fill is discouraged due to the limitation of using the fill area for future building structures. A site plan and geotechnical report shall be submitted with application.

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APPLICABLE BUILDING STANDARDS:

1. 2013 California Electrical Code (CEC)
2. 2013 California Mechanical Code (CMC)
3. 2013 California Residential Code (CRC)
4. 2013 California Building Code (CBC)
5. San Juan Capistrano Municipal Code (SJCMC)

SOLAR PHOTO-VOLTAIC SYSTEM OVER SINGLE FAMILY DWELLING SUBMITTAL REQUIREMENTS

ADMINISTRATIVE

1. Provide 3 sets of plans minimum sheet size 8.5” x 11” maximum sheet size of 24” x 36”.
2. Attach all manufacturer specification sheets, installation instructions and U.L. listings to the plans.
3. Plans are to be signed by State of California licensed contractor with any of the following classifications “A”, “B”, “C-46”, “C-10”, or licensed electrical engineer. Provide signature and contractor license number on each sheet.
4. Provide Planning Department approval prior to submitting to the Building Department.

ROOF PLAN

1. Provide a roof plan projected on a site plan. Show the location and dimensions of all solar voltaic equipment and PV arrays. Rooftop-mounted systems shall have a Class A fire classification.
2. Provide a partial roof framing plan. Show new and existing supporting rafters, beams and headers include rafter size, span, and spacing. Identify roof sheathing and roofing materials.

   ALTERNATE: Framing information is not required if arrays are supported at a maximum spacing of 4 ft.
3. Detail equipment support connections to roof. Provide a detail for flashing and water proofing at system supports.
4. Provide calculations by a licensed professional engineer or architect to verify supporting members are adequate for existing and proposed loads.

   ALTERNATE: Calculations not required if arrays are supported at a maximum spacing of 4 ft.
5. Provide lateral calculations by a licensed professional engineer or architect per 2013 CBC showing that affected existing lateral resisting elements are no more than 10% overstressed according to the 2013 CBC.

   ALTERNATE: Lateral analysis is not required if total area of arrays is less than 200 sq. ft. over a second story roof or 300 sq. ft. over a first story roof.

GUIDELINE TO ELECTRICAL SUBMITTAL REQUIREMENTS

ELECTRICAL

1. Provide Electrical drawings to show compliance with the applicable provisions of the 2013 California Electrical Code.
2. Show the location of the main electrical service, AC/DC disconnects, all solar voltaic equipment, and PV arrays on the roof plan
3. Single Line Diagram: show array configuration, conduit and conductors sizes with de-rating calculations
4. Inverter Information: show model number, specification cut sheets, and maximum D.C. input
5. PV Module Information: show open circuit voltage (VOC), short – circuit current (ISC) max series fuse
6. Array Information: show number of modules in series, number of parallel source circuits
7. Wiring and Over Current Protection: show conductor ampacities, adjusted with all de-rating factors show rating and location of all Over Current Devices (OCD)
8. System Labels and Warnings: show required signage on the plans per 2013 CEC- Article 690
9. Grounding Details: show equipment ground conductor, ground electrode conductor from inverter to ground rod or UFER ground
10. Disconnects: show AC/DC disconnects at inverter. DC disconnect required prior to DC array conductors penetrating the surface of the roof or entering the building
11. System Calculations: show (VOC) calculated 1.13 (ISC) calculated x 1.25% (NEC 690) x 1.25% (UL 1703)

Required plaques to be installed on the service meter panel and the AC disconnect to be installed on the face of the AC disconnect:

PV SYSTEM DISCONNECT FOR
UTILITY OPERATION
To be installed on the face of the service meter panel
CAUTION
POWER TO THIS BUILDING IS ALSO SUPPLIED FROM THE FOLLOWING SOURCES WITH DISCONNECT LOCATED AS SHOWN

THIS HANDOUT IS SIMPLY TO MAKE CERTAIN PARTS OF THE CODE MORE ACCESSIBLE AND SHOULD BE USED ONLY AS A GUIDELINE*