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		B SECTION	001 FORM NUMBER	2016CBC 2016 CRC CODE CYCLE	
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<b>RESIDENTIAL BATHROOM RENOVATION</b>					

## INTRODUCTION

Bathroom renovations generally require a Building permit. The following information can be used as a guideline for the bathroom requirements. Bathroom renovations require compliance with the:

- 2016 California Building Code (CBC);
- 2016 California Residential Code (CRC)
- 2016 California Plumbing Code (CPC);
- 2016 California Mechanical Code (CMC);
- 2016 California Electrical Code (CEC);
- 2016 California Energy Efficiency Code (CEEC);
- 2016 California Green Building Standards (CGBS); and
- The City of Downey Local Ordinances.

A bathroom renovation includes the removal and/or relocation of vanity cabinets, sinks, tub & showers, replacement/changes to the lighting or removal & replacement of the wall board. The replacement of the toilet, towel bars, mirrors, paint and floor coverings, where no other work is included is considered a maintenance item and no permit is required for these items.

The following details the minimum requirements of the bathroom electrical, mechanical and plumbing systems:

## ELECTRICAL

- Provide a 20 AMP GFCI protected electrical outlet within 36" of the outside edge of each bathroom sink basin. Outlet shall be located on a wall or partition that is adjacent to the basin or installed on the side or face of the basin cabinet not more than 12" below the countertop.
- Receptacles shall be listed as tamper-resistant.
- A minimum of (1) 20 amp circuit is required for bath rooms. Such circuits shall have no other outlets. This circuit may serve more than one bathroom. **(CEC 210.52d)**
- No pendant light fixtures in zone 3' away and 8' above the bathtub or shower.
- Luminaries located within the actual outside dimensions of the tub or shower, up to 8 feet vertically from the top of the bathtub rim or shower threshold, shall be marked as suitable for damp locations, provided with a solid lens and be GFCI protected.
- Bathroom lighting shall be high efficacy luminaries (40 lumens per watt). **See Table 150.0 (A) CEEC.** In bathrooms at least one luminaire shall be controlled by a vacancy sensor. **(CEEC section 150.0 (k) 2b (J))** This is a manual on, auto off device. Automatic on or devices with an override switch position are not approved. High efficacy, incandescent lighting or fans are required to be switched separately.  
**Exception to Section (k) 2b:** Lighting integral to an exhaust fan may be on same switch as the fan, provided the lighting can be switched OFF in accordance with applicable provisions in **CEEC section 150.0 (k)2**, while allowing the fan to continue to operate for an extended period of time.
- Recessed luminaries installed in an insulated ceiling shall be IC rated (zero clearance) and AT rated (air tight) and shall be sealed and/or gasketed between ceiling and housing. For occupancies with a horizontal (floor/ceiling assembly) rated separation, the recessed fixtures shall be protected to the rating of the separation (1 hour) or be listed for the required protection. This generally applies to residential condominium construction where units are above or below other units.

- Luminaires shall be switched with readily accessible controls that permit the luminaire to be manually switched On and OFF. Lighting controls and equipment shall be installed in accordance with manufacturer's instructions and shall comply with the applicable requirements of **CEEC section 110.9** and **Section 150.0 (k)2b (C)(D)**.
- No controls shall bypass a dimmer or vacancy sensor function, where that dimmer or vacancy sensor has been installed to comply with **CEEC section 150.0 (k)**.
- Dimmers and vacancy sensors shall control all luminaires required to have light sources compliant with Reference Joint Appendix JA8. (**CEEC section 150.0 (k)2b (K)**)

## **MECHANICAL**

- A bath exhaust fan w/ back draft damper is required regardless of the presence of a window. Exhaust must vent to outdoors in an approved duct. Terminate the outlet a minimum of 3' from an opening or property line. (**CMC 402.2.2**) A minimum rate of 50 <sup>cfm</sup> is required. Fan shall meet **ASHRA standard 62.2**. A maximum of 3 sone rating is required. (**2016 CEEC**)
- Fans shall be ENERGY STAR compliant. (**CGBS 4.506.1.1**)
- Unless the bathroom exhaust fan is part of the Whole House Ventilation System, fans must be controlled by a humidistat which shall be readily accessible. Humidistat controls shall be capable of adjustment between a relative humidity range of 50 to 80 percent. For the purpose of this section, a bathroom is a room that contains a bathtub, shower, or tub/shower combination. (**CGBS 4.506.1.2**)

## **PLUMBING**

- Provide tempered glass at tub/shower doors and at windows less than 60" from tub/shower drain
- Shower and Tub/shower control valves shall be pressure balancing / thermostatic per CPC 408.3.
- Multiple showerheads serving one shower, the combined flow rate of all the showerheads shall not exceed the maximum flow rate specified in the 20% reduction column contained in (**CGBS CHAPTER 8**), **WORKSHEET (WS-2)** or the shower shall be designed to allow one showerhead to be in operation at any one time.
- Fixtures shall meet the following maximum flow rates:  
**Water Closets = 1.28 GPM Shower Heads = 2.0 GPM Sink Faucets = 1.2 GPM.**
- Minimum shower size is 1024 square inches (30" circle) (**CPC 408.6**)
- Site built shower stalls shall comply with (**CPC 408.6**).
- Stall shower door to open out a minimum of 22" wide opening.
- Toilet and/or Bidet require a total minimum 30" clear space, 15" from the center of the fixture to the wall, and a minimum of 24" clear space in front of the fixture. (**CPC 402.5**)
- When additional water closets (toilets) are installed, a maximum of 3 water closets are allowed on a 3" waste line.
- The hot water valve shall be installed on the left side. (**CPC 417.5**)
- A minimum 12" x 12" access panel is required when a slip joint p-trap waste & overflow is provided.

## **WHIRLPOOL/SPA**

- Whirlpool (spa) bathtubs shall have a readily accessible access panel. (**CPC 409.6**)
- The circulation pump shall be located above the crown weir of the trap. (**CPC 409.6**)
- The pump and the circulation piping shall be self-draining to minimize water retention. (**CPC 409.6**)
- Suction fittings on whirlpool bathtubs shall comply with the listed standards. (**CPC 409.6**)
- The maximum hot water temperature discharging from the bathtub filler is limited to 120° by a device that conforms to **ASSE 1070** or **CSA B125.3**. The water heater thermostat shall not be considered a control for meeting this provision.

- Accessible disconnects and GFCI protection is required for the whirlpool (spa) pump, aerator and heater. **(CEC 210.8)**

### **BIDETS**

- The water supply shall be protected with an air gap or vacuum breaker. **(CPC 410.2)**
- The maximum hot water temperature discharging from a bidet is limited to 110° by a device that conforms to **ASSE 1070** or **CSA B125.3**. The water heater thermostat shall not be considered a control for meeting this provision. **(CPC 410.3)**