WATER EFFICIENCY MEASURES FOR NEW RESIDENTIAL DEVELOPMENT

GPF = gallons per flush, GPM = gallons per minute, IWF = integrated water factor

Indoors	Water Usage Rates	Recommendation Details	Federal or State Requirements
Toilets	**1.1 GPF**	Maximum Performance (MaP) rated Premium High Efficiency Toilet (HETs) or WaterSense labeled HETs with a maximum flush volume of 1.1 gallons per flush (GPF) and a MaP rating of 600 grams; dual flush MaP Premium or WaterSense labeled HETs with an average flush volume maximum of 1.1 GPF.	California Energy Commission (CEC) - Maximum gallons per flush or dual-flush effective flush volume; if sold or for sale on or after January 1, 2014: 1.28 GPF
Showerheads	**1.8 GPM**	Showerheads with a flow rate of 1.8 GPM or less at 80 psi. Limit to one showerhead per shower stall of 2,500 square inches or less, or shower stall designed so that only one shower outlet can be in operation at a time.	CEC - 1.8 GPM (80 psi), effective July 1, 2018.
Lavatory Faucets	**1.2 GPM**	Lavatory faucets with aerators that restrict flow to 1.2 GPM or less at 60 psi.	CEC - 1.2 GPM, (60 psi), effective July 1, 2016.
Kitchen Faucets	**1.8 GPM**	Kitchen faucets with aerators that restrict flow to 1.8 GPM or less at 60 psi; with temporary flow increase to 2.2 GPM for filling pots and pans.	CEC - 1.8 GPM (60 psi) with optional temporary flow of 2.2 GPM, effective January 1, 2016.
Clothes Washers	**4.5 IWF**	High efficiency clothes washers (HEW) with an integrated water factor of 4.5 or less. IWF rated washers have a maximum average water use of 4.5 gallons per cubic foot of laundry.	CEC - Maximum integrated water factor (IWF) January 1, 2018: top-loading compact 12.0, top-loading standard 6.5, front-loading compact 8.3, front-loading standard 4.7
Dishwashers	**3.5 - 5.0 Gallons per cycle**	Efficient dishwashers that use 5.0 gallons/cycle or less (standard-sized - 8 or more place settings), 3.5 gallons/cycle or less (compact size - less than 8 place settings)	CEC - Effective May 30, 2013: Compact dishwashers - 3.5 gal/cycle max.; Standard dishwashers - 5.0 gal/cycle max.
Outdoors		**Recommendation Details**	**Federal or State Requirements**
Turf Landscaping		Signiciantly limit turf to no more than 25% of the total landscaped area, and avoid turf in areas which are hard to irrigate efficiently such as narrow strips and slopes.	Many of these measures are now required as part of the CA Model Water Efficient Landscape Ordinance (MWELO), which has been adopted (or an at least as effective ordinance adopted) by local permitting agencies. For MWELO details visit the Department of Water Resources website at: https://water.ca.gov/Programs/Water-Use-And-Efficiency. Please contact the local permitting agency (City) permitting department for any variations from the State Ordinance.
Non-turf Landscaping		Select native or low water using plant species. High water using plants should be used sparingly, grouped together, and irrigated seperately.	
Irrigation System		Irrigation systems should be designed to maximize efficiency and reduce water waste by minimizing overspray and runoff. Use low volume (e.g., inline drip) irrigation where feasible. Only turf areas shall be irrigated with overhead spray irrigation.	
Irrigation Controller		Install automatic, self-adjusting irrigation controllers, each with a rain sensor. Automatic, self-adjusting controllers utilize prevailing weather conditions, current and historic evapotranspiration, soil moisture levels, and other relevant factors to adapt water applications to meet the needs of plants.	
Valves and Circuits		Should be separated into hydrozones based on plant type and plant water needs. Where feasible, trees shall be placed on separate irrigation valves from shrubs, groundcovers, and turf.	
Decorative fountains		All decorative fountains should recirculate water.	
Swimming Pools and Spas		Covers should be used on all pools or spas.	
Bay-Friendly Landscaping Best Practices		Adopt the Bay-Friendly Program's 7 best practices for landscaping and gardening. 1. Landscape Locally; 2. Landscape for Less to the Landfill; 3. Nurture the Soil; 4. Conserve Water; 5. Conserve Energy; 6. Protect Water & Air Quality; 7. Create Wildlife Habitat. More information about these practices here: https://rescapeca.org/about-us/principles/	

WATER EFFICIENCY MEASURES FOR NEW COMMERCIAL DEVELOPMENT

GPF = gallons per flush, GPM = gallons per minute, IWF = integrated water factor

Indoors	Water Usage Rates	Recommendation Details	Federal or State Requirements
Toilets	**1.1 GPF**	Tank style toilets: Maximum Performance (MaP) rated Premium High Efficiency Toilet (HETs) or WaterSense labeled HETs with a maximum flush volume of 1.1 gallons per flush (GPF) and a MaP rating of 600 grams; dual flush MaP Premium or WaterSense labeled HETs with an average flush volume maximum of 1.1 GPF. Flushometer or Valve type toilets : WaterSense labeled HETs with a maximum flow of 1.28 GPF and a MaP rating of at least 350 grams.	California Energy Commission (CEC) - Maximum gallons per flush or dual-flush effective flush volume; if sold or for sale on or after January 1, 2014: 1.28 GPF
Urinals	**0.125 GPF**	High efficiency urinals (HEU) with a flush volume of 0.125 GPF or less.	CEC - Maximum gallons per flush on or after January 1, 2016: 0.125 GPF (wall-mounted) or 0.5 GPF (other)
Showerheads	**1.8 GPM**	Showerheads with a flow rate of 1.8 GPM or less at 80 psi. Limit to one showerhead per shower stall of 2,500 square inches or less, or shower stall designed so that only one shower outlet can be in operation at a time.	CEC - 1.8 GPM (80 psi), effective July 1, 2018.
Lavatory Faucets	**0.5 GPM**	Lavatory faucets with aerators that restrict flow to 0.5 GPM or less.	CEC - 1.2 GPM, (60 psi), effective July 1, 2016.
Kitchen Faucets	**1.8 GPM**	Kitchen faucets with aerators that restrict flow to 1.8 GPM or less at 60 psi; with temporary flow increase to 2.2 GPM for filling pots and pans.	CEC - 1.8 GPM (60 psi) with optional temporary flow of 2.2 GPM, effective January 1, 2016.
Clothes Washers	**4.5 IWF**	High efficiency clothes washers (HEW) with an integrated water factor of 4.5 or less. IWF rated washers have a maximum average water use of 4.5 gallons per cubic foot of laundry.	CEC - Maximum integrated water factor (IWF) January 1, 2018: integrated water factor (IWF): top-loading 8.8, front-loading 4.1
Cooling Towers		Should be equipped with a recirculating system with a minimum of five (5) cycles of concentration. Newly constructed cooling towers should be operated with conductivity controllers, as well as make up and blowdown meters.	
Food Steamers		Should be boiler less or self-contained, using 3.0 GPH or less where applicable.	
Ice Machine		Should be air-cooled, or use no more than 20 gallons of water per 100 pounds of ice and should be equipped with a recirculating cooling unit.	
Commercial Refrigeration		Should be air-cooled or if it is water cooled it should have a closed loop system, no one through, single pass systems.	
Pre-rinse Dishwashing Spray Valve	**1.2 GPM**	Should have a maximum flow rate of 1.2 or less GPM.	CEC - Manufactured on or after January 1, 2016 shall be capable of cleaning 60 plates in an average time of not more than 30 secs per plate.
Vehicle Wash Facility		Shall reuse a minimum of 50% of the water from previous vehicles in subsequent washes.	
Outdoors		**Recommendation Details**	**Federal or State Requirements**
Same recommendations as for Residential Developments			