

LEGISLATIVE DIGEST

[Health Code - Mandatory Use of Alternate Water Supplies in New Construction]

Ordinance amending the Health Code, Article 12C, to require that new buildings of 250,000 square feet or more of floor area be constructed, operated, and maintained using available alternate water sources for toilet and urinal flushing and irrigation; that new buildings of 40,000 square feet or more of floor area prepare water budget calculations; and that subdivision approval requirements include compliance with the Health Code, Article 12C; and affirming the Planning Department's determination under the California Environmental Quality Act.

Existing Law

Under section 4.110 of the Charter, the Health Commission and the Department of Public Health ("Department") are generally authorized to provide for the preservation, promotion and protection of the physical and mental health of the inhabitants of the City and County. The Charter also provides that the Commission and the Department may also determine the nature and character of public nuisances and provide for their abatement.

Article 12C to the San Francisco Health Code contains laws that implement the Health Commission and the Department's authority to provide for the preservation, promotion and protection of the physical and mental health of the inhabitants of the City and County. The Article requires that persons desiring to implement alternative source water systems obtain permission to construct and operate such systems, in accordance with rules and regulations established by the Department that define appropriate water quality standards, monitoring criteria and other requirements for such systems. The Article also directs the Department of Building Inspection to review plans and to issue plumbing permits for on-site alternative source water systems.

Article 12C applies to and authorizes the installation and operation of the alternate water source systems at sites containing multi-family and non-residential buildings. The requirements do not apply to systems at small residential occupancies, graywater systems where graywater is collected solely for subsurface irrigation and does not require disinfection, as determined by the Director, and rainwater systems where rainwater is collected solely for subsurface irrigation, drip irrigation, or non-sprinkled surface applications and does not require disinfection, as determined by the Director.

Article 12C requires a project applicant to submit an engineering report to the Department that describes the design of the proposed alternative source water system and clearly indicates the means for compliance with the Department's rules and regulations. The Department will review the engineering report and issue a permit to operate the system, if the system complies with the applicable rules and regulations.

Under Article 12C, the Department of Building Inspection will provide final inspection and sign-off to ensure that appropriate bypass and cross-connection control elements as part of construction. The Article also provides authority to perform water use audits, approve permit transfers on point of sale of the property, suspend or revoke permits, and to abate violations, including the imposition of penalties pursuant to Administrative Code chapter 100.

Article 12C also provides for the payment of fees to cover the Department's costs for administering the program, and, by adding section 249.24 to the Business and Taxation Code, for the payment of an annual license fee to the Tax Collector.

Amendments to Current Law

The proposed amendments to Article 12C require that new buildings of 250,000 square feet or more of floor area, located within the boundaries of the Reclaimed Water Use Map designated in accordance with Sections 1203 and 1209 of the Public Works Code and that receive City approvals after September 1, 2015, be constructed, operated, and maintained using available sources of rainwater, graywater and foundation drainage for toilet and urinal flushing and irrigation. The amounts and types of water sources available for such new buildings will be assessed by using the San Francisco Public Utilities Commission's (SFPUC) Water Budget Calculator. If the Water Budget Calculator assessment shows that the available supply from onsite sources exceeds the demands for toilet and urinal flushing and irrigation, 100% of those demands must be met by using the available onsite sources. If the Water Budget Calculator assessment shows that the available supply from onsite sources is less than the demands for toilet and urinal flushing and irrigation, 100% of the available onsite supply must be used to meet the demands for toilet and urinal flushing and irrigation. Available black water or stormwater supplies may be used instead of, or in addition to rainwater, graywater, and foundation drainage to meet the requirements of this subsection.

Projects for new buildings consisting of 40,000 square feet or more of floor area and located outside the boundaries of the Reclaimed Water Use Map, are not required to install and operate alternative water systems, but must use the Water Budget Calculator to prepare a water budget assessing the amount of rainwater, graywater, and foundation drainage produced on site, and the planned toilet and urinal flushing and irrigation demands.

The proposed ordinance also establishes the policy of the City that within five (5) years of the effective date of this ordinance, the City shall only use non-potable water for the purpose of irrigating and cleaning parks and other public spaces. Within one year of the effective date of this ordinance, the Recreation & Park Department, Department of Public Works, Port of San Francisco, San Francisco Airport, City Administrator, Department of Real Estate, and Capital Planning Committee shall study what will be required to accomplish this policy, including associated costs and report the results of the study to the Mayor and Board of Supervisors square feet or more of floor area.

Finally, the proposed amendments require the SFPUC to conduct a feasibility analysis, and to report the findings of that analysis to the Mayor and Board of Supervisors within one year of the effective date of this ordinance, for eventual retrofit of all buildings in San Francisco to employ the use of nonpotable water. The feasibility analysis will distinguish among different building types and consider timetables for different types of buildings. Upon receiving this feasibility analysis, the Board of Supervisors intends to consider any changes to the law needed to move toward feasible retrofits of existing buildings

Background Information

The Department, SFPUC, and the Department of Building Inspection have jointly developed the City's Non-Potable Water Program. The purpose of this program is to create a streamlined process for new large developments in San Francisco to collect, treat, and use non-potable water on-site for toilet flushing, irrigation and other non-potable applications. Non-potable is a term that refers to water that is not of drinking water quality, but can be used for other productive uses such as toilet flushing and irrigation, in compliance with applicable City, State and Federal laws. Currently, the City has no integrated process for reviewing, approving and monitoring such projects.

According to the SFPUC, non-potable water is used across the nation to reduce the pressure on natural water resources. Treated non-potable water can be used for a number of beneficial purposes including irrigation, toilet flushing, decorative fountains, dust control and cooling applications. Capturing and treating rainwater, foundation drainage, and graywater—and then reusing the water for toilet flushing and irrigation—would result in a dramatic reduction in the overall water footprint of a building. Furthermore, using on-site sources may reduce the volume of flows into the sewer. Reducing the volume of stormwater, especially during the rainy season, can prevent combined sewer discharges.

Under this program, several types of alternate water sources generated on-site can be collected and treated, including:

Rainwater – precipitation collected from roof surfaces.

Graywater – wastewater from bathtubs, showers, bathroom, clothes washing machines, and laundry tubs, but does not include wastewater from kitchen sinks, toilets or dishwashers.

Foundation Drainage – nuisance groundwater that is dewatered to maintain a building's structural integrity and would otherwise be discharged to the City's sewer system. Foundation drainage is not the same as non-potable groundwater, which requires a production well and is already regulated by City ordinance.

Stormwater – precipitation that has contacted a surface at grade or below grade and has not been put to beneficial use.

Black water - wastewater from toilets, dishwashers, kitchen sinks and utility sinks.

Non-potable water cannot be used for drinking, washing or bathing, washing of clothing, washing of food, washing of cooking or eating utensils, washing of food preparation or processing premises, or other personal service rooms. Rainwater, however, is often allowed for clothes washing and recycled water is allowed for commercial laundries. The City's Non-Potable Water Program is designed for new, large scale commercial, mixed-use, and multi-family residential developments installing on-site systems to capture, treat, and reuse water for toilet flushing, irrigation and other non-potable applications. Single-family residential properties are the focus of already existing SFPUC programs, namely the Laundry-to-Landscape Pilot Graywater Program, the Graywater Permit Rebate Program, and the Discounted Rain Barrel and Cistern Program, and are therefore not included in this Non-potable Water Program.

Typical elements of an alternative water source system may include:

- o Collection: Plumbing used to collect on-site supplies, such as graywater, and convey it to a treatment system.
- o Storage (Collection): Storage tank used to equalize collection flows prior to treatment.
- o Treatment System: A system that process untreated water with filtration, disinfection, and/or other processes to achieve acceptable water quality results.
- o Treated water storage: Storage tank used to store treated graywater, rainwater, or foundation drainage water after treatment and before distribution.
- o Distribution system (pumps and piping): Distribution pumps convey water from the treated storage tank to designated fixtures in the building via nonpotable distribution plumbing. Distribution system piping is completely separate from other piping in a building and is used to convey the treated nonpotable supplies to specific uses such as toilet flushing.