



San Francisco's Water, Sewer, and Stormwater Requirements Manual

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LIST OF ACRONYMS

BMP	Best Management Practice
CDD	SFPUC City Distribution Division
CSB	SFPUC Customer Services Bureau
CSD	SFPUC Wastewater Collection Systems Division
DBI	Department of Building Inspection
DPH	Department of Public Health
DPW	Department of Public Works
FAQ	Frequently Asked Question(s)
FOG	Fats, Oils, and Grease
gpf	gallons per flush
gpm	gallons per minute
HIS	DBI Housing Inspection Services
LEED	Leadership in Energy and Environmental Design
MS4	Municipal Separate Storm Sewer System
NPDES	National Pollutant Discharge Elimination System
PID	DBI Plumbing Inspection Division
sf	square feet
SFPUC	San Francisco Public Utilities Commission
WQD	SFPUC Water Quality Division

1 Introduction and Background

1.1 SFPUC Requirements

The San Francisco Public Utilities Commission (SFPUC) implements numerous programs to preserve water and wastewater infrastructure and water supply, protect our natural resources through the development of sustainable buildings and landscapes, recover and reuse resources, and meet the SFPUC's National Pollutant Discharge Elimination System (NPDES) permit requirements. These goals support the SFPUC mission to provide customers with high-quality, efficient, and reliable water and sewer services in a sustainable manner. The SFPUC's programs rely on ordinances, rules and regulations, and guidelines (collectively "requirements") as one of the tools to achieve the SFPUC's goals. This paper focuses on the SFPUC requirements that target new developments or installations that connect to the SFPUC water and/or wastewater systems that are within the City and County of San Francisco.

SFPUC's Water Enterprise (Water) administers the following programs, which are supported by ordinances as listed below:

- Water Conservation Program
 - Water Efficient Irrigation Ordinance (*Section 2*)
 - Residential Water Conservation Ordinance (*Section 3*)
 - Commercial Water Conservation Ordinance (*Section 4*)
- Recycled Water Program
 - Recycled Water Use Ordinance (*Section 5*)
- Non-potable Water Program
 - Non-Potable Water Ordinance (*Section 6*)
- Cross-Connection Control Program
 - Backflow Prevention Ordinance (*Section 7*)

In addition, the Water Enterprise also helps administer the following Water Well Use Regulations in conjunction with the Department of Public Health (DPH) Environmental Health Section:

- DPH Well Program
 - Soil Boring and Well Regulations Ordinance (herein referred to as the "Water Well Use Regulations") (*Section 8*)

The City Distribution Division (CDD) of the Water Enterprise reviews the following aspects of water infrastructure:

- Hydraulic Capacity Assessment
 - New Fire Service Connections (*Section 9*)
 - New and Relocated Fire Hydrants (*Section 10*)

The SFPUC's Customer Service Division administers the following programs for both the Water and Wastewater Enterprises:

- New Water Service Installations (*Section 11*)
- Residential Water Submetering (*Section 12*)
- Water and Wastewater Capacity Charge (*Section 13*)

SFPUC's Wastewater Enterprise (Wastewater) administers programs that enforce the following requirements:

- Urban Watershed Management Program
 - Stormwater Management Ordinance (*Section 14*)
- Pretreatment Program
 - Soil Compaction and Dust Control Ordinance (*Section 15*)
 - Sewer Use Ordinance, including:
 - FOG (Fats, Oils, and Grease) Control Ordinance (*Section 16*)
 - Industrial User Permit (*Section 17*)
 - Batch Wastewater Discharge Permit (*Section 18*)
 - Construction Site Runoff Control Ordinance (*Section 19*)
- Sewer Connection Permit Program
 - Sewer Connection and Lateral Permit (forthcoming) (*Section 20*)

A summary of the thresholds for each of these requirements as well as a directory of sections and contacts are provided in Table 1-1.

The ordinances listed above were (or will be) enacted in different City and County of San Francisco codes, including the Housing Code, Public Works Code, and Health Code. Program implementation to enforce the SFPUC requirements described in this Manual often requires coordination with other City agencies, including the Department of Building Inspection (DBI), the Department of Public Works (DPW), the Planning Department, or DPH.

1.2 Purpose of This Manual

This Manual briefly describes each SFPUC requirement that a new development or installation project may need to comply with. The summary of each requirement includes the code reference, purpose, trigger, technical and institutional requirements, contact information, and links to resources.

This Manual will be updated periodically to cover new requirements and updates to existing requirements. Additionally, this Manual could be expanded in the future to include additional types of requirements. Currently, the SFPUC requirements in this Manual are limited to those that affect new development or installations and most only apply within a parcel boundary. Water and Wastewater Enterprises also enforce the SFPUC's Utility Standards, including water and wastewater utility standards developed specifically for large redevelopment projects like Mission Bay. Although these utility standards are not currently included in this Manual, future updates to the Manual may include more detail.

Table 1-1. SFPUC Requirements at a Glance (continued on next page)

If the property or proposed project includes...	...then the property or project may need to comply with these requirements:	Section	E-mail	Phone
Landscape work totaling 500 sf or more (including green roofs and public parks)	Water Efficient Irrigation Ordinance	<u>2</u> (page 5)	landscape@sfgwater.org	(415) 551-4730
Residential dwelling (including apartments, condominiums, and residential hotels) undergoing major improvements or sale/transfer of title	Residential Water Conservation Ordinance	<u>3</u> (page 8)	waterconservation@sfgwater.org	(415) 551-4730
Commercial building, including mobile homes and portions of buildings used for commercial or live/work purposes	Commercial Water Conservation Ordinance	<u>4</u> (page 11)	waterconservation@sfgwater.org	(415) 551-4730
Project located in the Designated Recycled Water Use Area with: <ul style="list-style-type: none"> • 40,000 sf or more of new construction or major alterations, or • 10,000 sf or more of new or existing landscape area 	Recycled Water Use Ordinance	<u>5</u> (page 14)	recycledwater@sfgwater.org	(415) 554-3271
<ul style="list-style-type: none"> • 40,000 sf or more of new construction, or • Voluntary installation of an alternate water source system (i.e. onsite, non-potable water system) 	Non-potable Water Ordinance	<u>6</u> (page 16)	nonpotable@sfgwater.org	(415) 551-4734
Potential unprotected cross connection or hazard (such as a boiler, chemical feed equipment, dedicated irrigation, or interconnected fire sprinkler system)	Backflow Prevention Ordinance	<u>7</u> (page 19)	backflow@sfgwater.org	(650) 652-3199
Groundwater pumping/withdrawal from a well	Water Well Use Regulations	<u>8</u> (page 21)	groundwater@sfgwater.org	(415) 554-3271
New fire service connections two inches in diameter and greater	New Fire Service Connections	<u>9</u> (page 24)	CDDEngineering@sfgwater.org	(415) 550-4994
New or relocated fire hydrants	New and Relocated Fire Hydrants	<u>10</u> (page 26)	CDDEngineering@sfgwater.org	(415) 550-4994

If the property or proposed project includes...	...then the property or project may need to comply with these requirements:	Section	E-mail	Phone
New water service, new fire service or any upgrades to irrigation systems or plumbing that would alter the size of the meter or change the location of the meter	New Water Service Installations	11 (page 28)	info@sfwater.org	(415) 551-2900
New construction of a multi-family residential structure or mixed-use residential and commercial structure	Residential Water Submetering	12 (page 31)	niapprovals@sfwater.org	(415) 551-2900
A new connection to the water distribution system or need for additional capacity as a result of adding additional water fixtures or larger water fixtures	Water Capacity Charge	13 (page 34)	capacitycharges@sfwater.org	(415) 575-6941
A new connection or need for additional wastewater collection and treatment capacity as a result of new construction, new additions, developing existing space into “conditioned” square footage or a change of business use	Wastewater Capacity Charge	13 (page 34)	capacitycharges@sfwater.org	(415) 575-6941
Creation and/or replacement of 2,500 sf or more of impervious surface	Stormwater Management Ordinance	14 (page 37)	stormwaterreview@sfwater.org	none
Soil compaction and/or dust control activities during construction or demolition	Soil Compaction and Dust Control Ordinance	15 (page 40)	mfisher@sfwater.org	(415) 695-7378
Restaurants or other food service establishments	Fats, Oils and Grease (FOG) Control Ordinance	16 (page 42)	chinson@sfwater.org	(415) 695-7363
Regular or continuous discharges into the City’s combined sewer system, such as Laundries, Food Processors, Hospitals, Restaurants, and/or Dental Offices	Industrial User Permit	17 (page 45)	bdonald@sfwater.org	(415) 695-7330
Non-routine, episodic, batch, or other temporary discharges to the City’s combined sewer system, such as dewatering, power washing, pipe or tank cleaning, etc.	Batch Wastewater Discharge Permit	18 (page 47)	ailejay@sfwater.org	(415) 695-7339
Earth disturbing activities	Construction Site Runoff Ordinance	19 (page 49)	ailejay@sfwater.org	(415) 695-7339

2 Water Efficient Irrigation Ordinance

2.1 Code

San Francisco Administrative Code, Chapter 63: Water Efficient Irrigation Ordinance; enacted by Ordinance 301-10; effective January 1, 2011

SFPUC Rules and Regulations Governing Water Service to Customers, Section F: Water Efficient Irrigation; Rules and Regulations established by Resolution No. 19.786; effective January 1, 1960, amended with Section F December 14, 2010.

The Water Efficient Irrigation Ordinance and Section F of the SFPUC Rules and Regulations were subsequently amended to comply with new irrigation and landscape standards as a result of California's historic drought. In April 2015, Governor Brown issued a Drought Executive Order that directed the state to update the Model Water Efficient Landscape Ordinance to increase water efficiency standards for new and existing landscapes. The compliance trigger for new construction projects was lowered from 1,000 square feet to 500 square feet. The SFPUC updated its Rules and Regulations on October 27, 2015 and the Ordinance on March 3, 2016 to comply with the state's increased efficiency standards.

2.2 Purpose

- Protect water resources and plant and animal habitats
- Increase low water use and climate appropriate plantings
- Reduce runoff and maximize water retention in soil and plantings
- Lessen the impact of rising water costs on renters and homeowners

2.3 Who Must Comply

Triggers

Public agencies and owners of residential, commercial, and mixed use properties with new construction landscape projects greater than or equal to 500 square feet (sf) or rehabilitated landscape projects greater than or equal to 1,000 sf.

Exemptions

- Registered local, state, or federal historical sites where the landscape is maintained as part of the historical integrity of the site
- Ecological restoration projects that do not require a permanent irrigation system
- Existing plant collections or animal habitat areas, as part of botanical gardens, zoological gardens, and arboretums, that are open to the public

2.4 Technical Requirements

In general, a project will need to:

- Install a water efficient irrigation system
- Install low water use and climate-appropriate plantings
- Establish an annual water budget

Depending on the size of the landscape project, it is subject to either Tier 1 or Tier 2 requirements. For both sets of requirements, and to which projects they apply, refer to the developer factsheet prepared by the Water Conservation Section: *Complying with San Francisco's Water Efficient Irrigation Requirements*. This factsheet is available at the ordinance web page.

2.5 Institutional Requirements

In general, a project will need to:

- Submit an application (per Tier 1 or Tier 2 requirements) to the Water Conservation Section before project installation
- Submit a Certificate of Completion to the Water Conservation Section after project installation

For specific Tier 1 and Tier 2 documentation requirements, refer to the developer factsheet, "Complying with San Francisco's Water Efficient Irrigation Requirements." In addition, the flowchart in Figure 2-1 guides the project proponent through the compliance process, starting at the green box. An abbreviated version of this flowchart is also available at the ordinance web page.

2.6 Contact Information and Resources

Ordinance web page: <http://sfwater.org/index.aspx?page=689>
Program e-mail address: landscape@sfwater.org
Program phone number: (415) 551-4730

The following resources are posted at the ordinance web page:

- Water Efficient Irrigation Ordinance (Administrative Code, Chapter 63)
- Factsheet: *Complying with San Francisco's Water Efficient Irrigation Requirements*
- How to Comply Flowchart
- Frequently Asked Questions
- Application Form (Tier 1 and Tier 2)
- Blank Certificate of Completion (Tier 1 and Tier 2)
- San Francisco Plant List
- SFPUC Rules and Regulation for Water Efficient Irrigation
- Large Landscape Compliance Application (for properties with 10 acres or more)
- Urban Agriculture and Community Garden Compliance
- Guidebook to Water-Wise Gardening in San Francisco

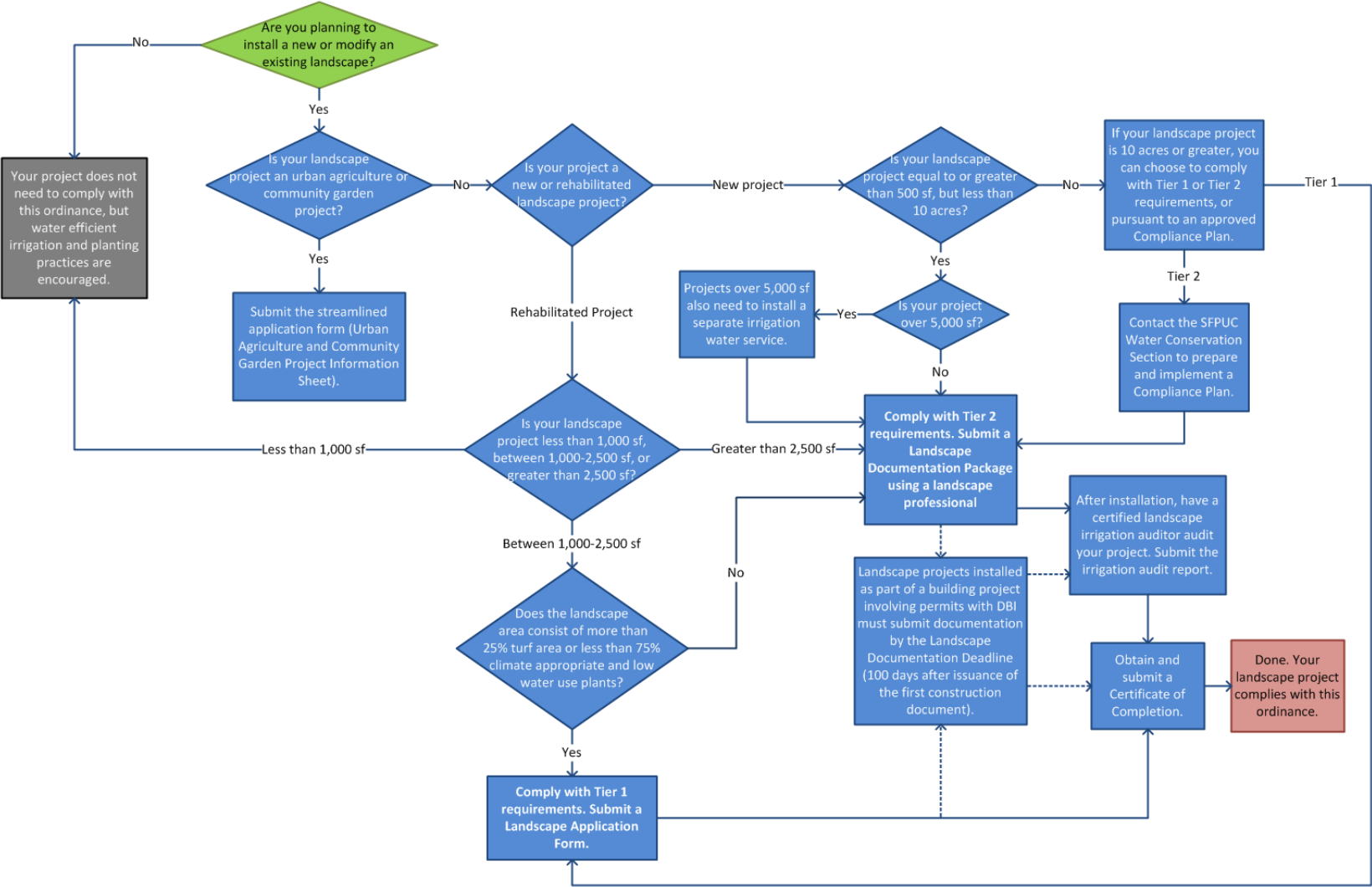


Figure 2-1. Water Efficient Irrigation Ordinance Compliance Flowchart

3 Residential Water Conservation Ordinance

3.1 Code

San Francisco Housing Code, Chapter 12A: Residential Water Conservation Ordinance; enacted and amended by Ordinances 185-91, 346-91, 161-92, 350-95, 256-07, and 76-09; effective as amended July 1, 2009

3.2 Purpose

Conserve existing water supplies by reducing the overall demand for water in residential buildings.

3.3 Who Must Comply

Triggers

Prior to transfer of title as result of a sale, all owners of the following properties must comply:

- 1- and 2-family dwellings
- Apartment buildings (including each condominium unit sold)
- Residential hotels

Owner's compliance is also required when one of the following situations occurs:

- Metering conversion: the removal of one or more units from the master to an individual meter
- Major improvements: improvements having an estimated valuation as follows:
 - 1- and 2-family units > \$20,000
 - 3 units and up (excluding residential hotels) > \$6,000 per unit
 - Residential hotels > \$1,000 per unit
 - Condominium conversion

Exemptions

- Showerhead replacement that would not support a valid medical condition of the occupant, as specified by a licensed physician in a letter to the SFPUC
- Water closet replacement that would detract from the historical integrity of the building, as determined by the Director of the DBI

3.4 Technical Requirements

- Replace inefficient plumbing fixtures with efficient fixtures that have flow rates of:
 - Showerheads \leq 2.5 gallons per minute (gpm)
 - Faucet and faucet aerators \leq 2.2 gpm
 - Toilets \leq 1.28 gallons per flush (gpf)¹
- Repair leaks

For more information, refer to program brochure: What You Should Know about San Francisco's Residential Energy and Water Conservation Requirements.

3.5 Institutional Requirements

- Obtain an inspection from either DBI's Housing Inspection Services (HIS) or a DBI-certified private (third party) inspector
- File the inspection form with HIS within 15 days of the inspection and resolve any outstanding issues per the inspector's report, if any
- Obtain a Certificate of Compliance from HIS
- Record the Certificate of Compliance with the Office of Assessor-Recorder
- If the seller and buyer agree to transfer responsibility of compliance to the buyer
 - Set up an Energy and Water Conservation Escrow Account
 - File with DBI valid inspections forms and notice of escrow account
 - Complete required conservation measures within 180 days of sale (compliance by buyer)

The flowchart in Figure 3-1 guides the seller or seller's representative through the compliance process, starting at the green box.

3.6 Contact Information and Resources

Ordinance web page: <http://sfwater.org/index.aspx?page=688>
Program e-mail address: waterconservation@sfwater.org
Program phone number: (415) 551-4730

The following resources are posted at the ordinance web page:

- Residential Water Conservation Ordinance (Housing Code, Chapter 12A)
- Residential Water Conservation Ordinance Program Brochure
- Frequently Asked Questions
- San Francisco Plumbing Code, Chapter 4

¹ Existing 1.6 gpf toilets are in compliance and do not need to be replaced. However, if 1.6 gpf toilets are to be replaced during major improvements or resale, they must be replaced with 1.28 gpf or less.

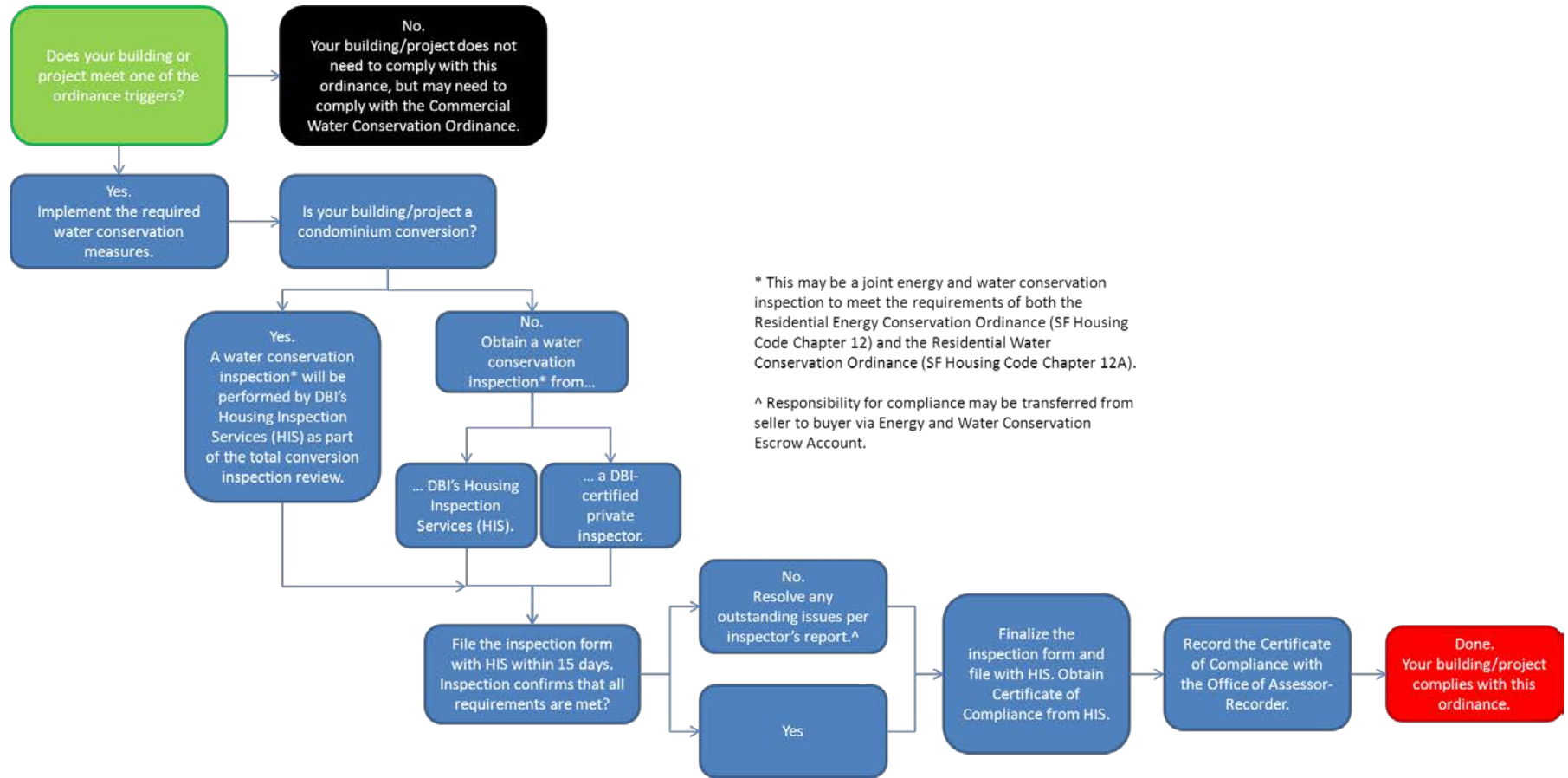


Figure 3-1. Residential Water Conservation Ordinance Compliance Flowchart

4 Commercial Water Conservation Ordinance

4.1 Code

San Francisco Building Code, Chapter 13A: Commercial Water Conservation Ordinance; effective July 1, 2009

4.2 Purpose

Conserve existing water supplies by managing the overall demand for water in commercial buildings, including tourist hotels and motels.

4.3 Who Must Comply

Triggers

By January 1, 2017, all owners of the following properties must comply:

- Commercial buildings
- Any portion of a residential building which is:
 - used for commercial purposes
 - converted to a tourist hotel
 - occupied as a hotel or motel unit and which has a certificate of use for tourist occupancy
- Any building or portion thereof which is a live/work occupancy
- Mobile homes

Owner's compliance is also required when one of the following situations occurs:

- Commercial building additions that increase the floor area of the space in the building by more than 10% require the retrofit all non-compliant fixtures in the entire building
- Any tenant improvements costing more than \$150,000 require the retrofit of non-compliant fixtures that serve the specific area of alteration or improvement
- Alterations or improvements to a room containing any non-compliant fixtures require the retrofit of the non-compliant fixtures in that room

Exemptions

- Water closet or urinal replacement that would detract from the historical integrity of the building, as determined by the Director of DBI

4.4 Technical Requirements

- Replace inefficient plumbing fixtures with efficient fixtures that have flow rates of:
 - Showerheads \leq 2.5 gallons per minute (gpm)
 - Faucet and faucet aerators \leq 2.2 gpm
 - Toilets \leq 1.28 gallons per flush (gpf)²
 - Urinals \leq 0.5 gpf³
- Repair leaks

For more information, refer to the program brochure: What You Should Know about San Francisco's Water Conservation Requirements for Commercial Buildings.

4.5 Institutional Requirements

- Obtain an inspection from either DBI's Plumbing Inspection Division (PID) or private (third party) inspector authorized or hired by DBI
- Resolve any outstanding issues per the inspector's report, if any
- File the final inspection form with PID
- Obtain a Certificate of Compliance from PID

The flowchart in Figure 4-1 guides the project proponent through the compliance process, starting at the green box.

4.6 Contact Information and Resources

Ordinance web page: <http://sfwater.org/index.aspx?page=683>
General e-mail address: waterconservation@sfwater.org
Program phone number: (415) 551-4730

The following resources are posted at the ordinance web page:

- Commercial Water Conservation Ordinance (Building Code, Chapter 13A)
- Commercial Water Conservation Ordinance Program Brochure
- Frequently Asked Questions
- San Francisco Plumbing Code, Chapter 4

² Existing 1.6 gpf toilets are in compliance and do not need to be replaced. However, if 1.6 gpf toilets are to be replaced during major improvements, they must be replaced with 1.28 gpf or less.

³ Existing 1.0 gpf urinals are in compliance and do not need to be replaced. However, if 1.0 gpf urinals are to be replaced during major improvements, they must be replaced with 0.5 gpf or less.

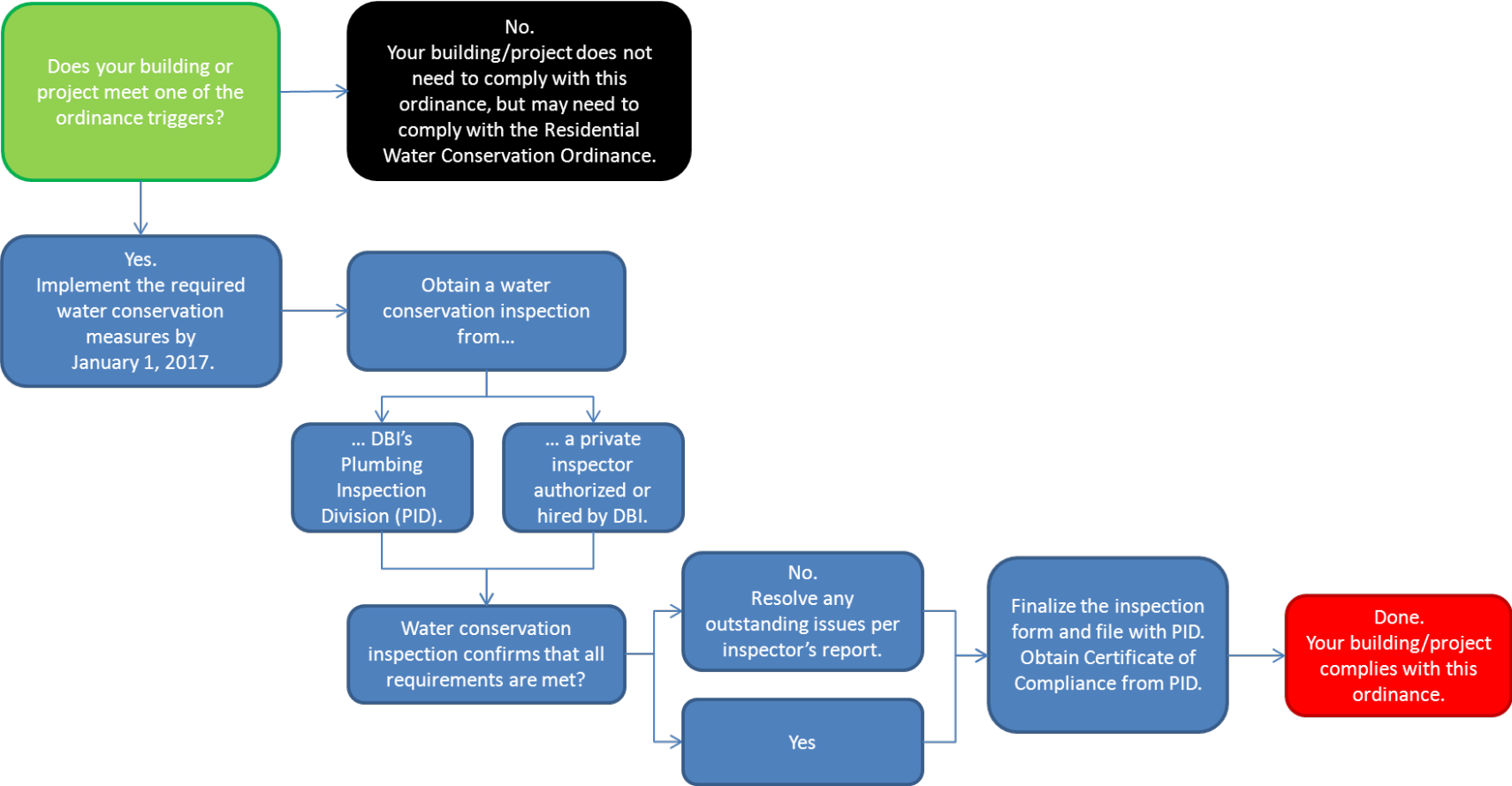


Figure 4-1. Commercial Water Conservation Ordinance Compliance Flowchart

5 Recycled Water Use Ordinance

5.1 Code

San Francisco Public Works Code, Article 22: Reclaimed Water Use; enacted by Ordinances 390-91, 391-91, and amended by 393-94; effective November 7, 1991 (amendments effective November 23, 1994)

5.2 Purpose

- Enhance achievement of the City's goals for water supply use, and preservation and protection of the environment
- Assist in meeting the future water supply needs of the City by supplementing existing surface and groundwater supplies
- Ensure separate plumbing for recycled water supply lines from potable supply lines for future delivery of recycled water.

5.3 Who Must Comply

Triggers

Properties that are within the designated recycled water use areas⁴ and meet the following circumstances:

- New, remodeled, or converted buildings with a total cumulative area of 40,000 sf or more⁵
- Subdivisions
- New and existing irrigated areas of 10,000 sf or more not constructed in conjunction with, or as part of a development project (described in bullet one above)

Exemptions

- Development projects, subdivisions, or irrigation systems authorized by the SFPUC General Manager to use potable or non-potable water from an underlying subsurface water supply

⁴The designated recycled water use areas include:

- **Westside** – Lake Merced, Great Highway, Golden Gate Park, 39th Avenue, Lincoln Park, Richmond Tunnel, and the Presidio
- **Eastside** – The Embarcadero, Mission Bay, and Hunters Point Naval Shipyard, Treasure Island, and Yerba Buena Island

A map of the designated recycled water use area boundaries is provided in the Recycled Water Ordinances Brochure and on the ordinance web page <http://sfwater.org/RWReqs>

⁵ In a mixed-used residential building where a recycled water system is installed, any restaurant or other retail food-handling establishment must be supplied by a separate potable water system to ensure public health and safety.

- Applications demonstrating that recycled water use is not appropriate for the intended purposes and cannot be made usable by user pretreatment processes or other project modifications

5.4 Technical Requirements

- Install the recycled water system or recycled water irrigation system in compliance with the San Francisco Plumbing and Health Codes, which include water meter(s), pipe type, backflow prevention assembly(ies), pipe separation requirements, and signage and labeling requirements

For more information, refer to the Recycled Water Installation Procedures for Developers posted on the ordinance web page.

5.5 Institutional Requirements

- Submit plumbing plans to SFPUC for off-site (in the street) recycled water system; obtain approval from SFPUC's City Distribution Division (CDD)
- Submit plumbing plans for on-site recycled water system to DBI for plan check; obtain a Plumbing Permit from DBI
- Obtain a Certificate of Final Completion or Occupancy from DBI

5.6 Contact Information and Resources

Ordinance web page: <http://sfwater.org/RWReqs>
Program e-mail address: recycledwater@sfwater.org
Program phone number: (415) 554-3271

The following resources are posted at the ordinance web page:

- Recycled Water Use Ordinance (Public Works Code, Article 22)
- Recycled Water Ordinance Brochure
- Recycled Water Installation Procedures for Developers
- Designated Recycled Water Use Areas in San Francisco
- SFPUC Memo regarding Implementation of Recycled Water Use Regulations
- Recycled Water Plumbing Codes (California Plumbing Code, Chapter 16A)
- California Department of Public Health Statutes and Regulations

In addition, a Recycled Water Customer Guide is being developed and will be posted on the ordinance web page when it becomes available.

6 Non-potable Water Ordinance

6.1 Code

San Francisco Health Code, Article 12C: Alternate Water Sources for Non-potable Applications; enacted by Ordinance 195-12; effective September 11, 2012; amended October 11, 2013; further amended July 2, 2015

San Francisco Business and Tax Regulations Code, Article 2, Section 249.24: Non-potable Water Systems; enacted by Ordinance 195-12; effective September 11, 2012; amended October 11, 2013; further amended July 2, 2015

SFDPH Director's Rules and Regulations regarding the operation of onsite non-potable water systems

6.2 Purpose

- Establish a regulatory structure for designing, installing, operating, and maintaining alternate water source systems to provide administrative efficiency and streamline the project approval process
- Allow the sharing of treated alternate water sources for non-potable applications among multiple buildings
- Mandate the installation of onsite water systems in new, large developments
- Lessen the impacts of new developments on the City's water and sewer systems
- Help achieve the City's goals for water supply use and preservation by:
 - Promoting the values and benefits of non-potable water use while recognizing the need to invest water and other resources as efficiently as possible
 - Encouraging the use of non-potable water for non-potable applications

6.3 Who Must Comply

Triggers

The Non-potable Ordinance was amended in July 2015 to require the following beginning on November 1, 2015:

- that all new buildings of 250,000 square feet or more of gross floor area, located within the boundaries of San Francisco's designated recycled water use area be constructed, operated, and maintained using available alternate water sources for toilet and urinal flushing and irrigation;
- that all new buildings in San Francisco of 40,000 square feet or more of gross floor area prepare water budget calculations;

The July 2015 amendments also require the following beginning on November 1, 2016:

- that all new buildings of 250,000 square feet or more of gross floor area, located outside the boundaries of San Francisco’s designated recycled water use area be constructed, operated, and maintained using available alternate water sources for toilet and urinal flushing and irrigation.

Exemptions

The ordinance is not applicable to the following alternate water source systems:

- Systems at small residential occupancies (1- and 2-family dwellings)

6.4 Technical Requirements

- Install a flow meter on the effluent pipe from the onsite water system to track how much alternate water is used.
- Implement a system bypass, makeup water connection, pipe separation, and backflow prevention.
- Install pipe identification and signage.
- For district-scale projects, lockable valves which can be activated to control the flow of water from any source originating from another property.
- For district-scale projects, lockable valves which can be activated to control the flow of water to any user located at another property.

For more information, refer to the developer guidebook (Guidebook)—*San Francisco’s Non-potable Water Program: A Guidebook for Implementing Onsite Water Systems in the City and County of San Francisco*—posted on the program web page at www.sfwater.org/np.

6.5 Institutional Requirements

- Submit a Water Budget Application to SFPUC Water Resources Division
- Submit a Non-potable Water Engineering Report, prepared by a qualified engineer, to SFDPH
- For district-scale projects, submit a legally enforceable agreement defining the roles and responsibilities of each property owner or entity acting as an Operator, Supplier, or User of an Alternate Water Source System to SFDPH
- Submit plumbing plans to DBI for plan check; obtain a Plumbing Permit
- Construct onsite water system
- Submit Construction Certification Letter to SFDPH
- Undergo an Initial Cross Connection Control Test with SFPUC
- Obtain Certificate of Occupancy or Final Completion from DBI
- Obtain permits for operation from SFDPH (Start-Up Permit, Temporary Use Permit, and Final Permit)
- Conduct water quality monitoring; report results per SFDPH Rules & Regulations
- Coordinate ongoing water quality monitoring and O&M

For a flowchart that guides the project proponent through the compliance process, refer to the Guidebook.

6.6 Contact Information and Resources

Program web page: <http://sfwater.org/np>
Program e-mail address: nonpotable@sfwater.org
Program phone number: (415) 551-4734

The following resources are posted at the Non-potable Water Program web page:

- San Francisco's Non-potable Water Program Guidebook
- Non-potable Water Program Factsheet
- SFPUC Water Budget Application
- Non-potable Water Calculator (Excel spreadsheet)
- SFPUC Grant Assistance Application for Large Non-potable Water Projects
- San Francisco Non-potable Onsite Water System Case Studies
- Non-potable Program Backflow Protection Requirements
- Onsite Water Reuse Ordinance (including Health Code, Article 12C)
- SFDPH Rules & Regulations
- Blueprint for Onsite Water Systems

7 Backflow Prevention Ordinance

7.1 Code

San Francisco Health Code, Article 12A: Backflow Prevention; enacted by Ordinance 356-84; effective August 24, 1984. Further amendments to Article 12A are anticipated to be approved in June 2016. These amendments are reflected in this section.

In addition to specifying requirements for consumers (i.e., owners of applicable properties), this ordinance specifies requirements for the authorization of backflow prevention assembly testers to work in the City. However, only the requirements for consumers, not for testers, are summarized below.

7.2 Purpose

- Establish requirements for backflow prevention
- Protect the City’s drinking water distribution system from contamination caused by backflow

7.3 Who Must Comply

Triggers

- Any property that receives water service from the Public Water System

Exemptions

No properties that meet the above trigger requirements are exempt from this ordinance.

7.4 Technical Requirements

- Eliminate any unprotected cross-connections within seven days of receipt of notification from the SFPUC Water Quality Division (WQD), unless an alternate deadline for remediation has been granted.
- Install backflow prevention assemblies either:
 - As close as practical to but in any case within 25 feet of the downstream side of the water meter or point of connection to the public water system, and/or
 - At the location of an internal hazard (e.g., boiler) to protect the plumbing system within a consumer’s premises.
 - Install only backflow prevention assemblies that are on the “Approved Backflow Prevention Assemblies” list developed by the University of Southern California Foundation for Cross-Connection Control and Hydraulic Research. Assemblies may not be modified or installed in a manner that differs from the configuration tested and approved.

7.5 Institutional Requirements

- Arrange for backflow prevention assemblies to be tested annually by an Authorized Backflow Prevention Assembly Tester (WQD will send a notice at the beginning of the month in which the test is due).
- Enter test results into WQD's Cross-Connection Assembly Management System within 5 calendar days of the test date.
- If a tester determines that a backflow prevention assembly needs to be moved, removed, or replaced:
 - Obtain a plumbing permit from DBI
 - Enter Plumbing Permit Number into CCAMS.
 - Have the assembly tested and reported as described above

For more information about the process and requirements for testing, refer to the Frequently Asked Questions about Backflow Prevention posted on the Cross-Connection Program's web page.

7.6 Contact Information and Resources

Program web page: <http://sfwater.org/backflow>
Program e-mail address: backflow@sfwater.org
Program phone number: (650) 652-3199

The following resources are posted at the Cross-Connection Control Program web page:

- Consumer Guide to Backflow Prevention
- Frequently Asked Questions About Backflow Prevention
- Required Levels of Backflow Protection
- Required Levels of Backflow Protection for Non-Potable Systems
- Cross-Connection Control Requirements for Dedicated Irrigation Systems
- Cross-Connection Control Requirements for Fire Services
- List of Certified Backflow Prevention Assembly Testers
- San Francisco's General Requirements for Installation of Backflow Prevention Assemblies at Point of Connection/Water Meter

8 Water Well Use Regulations

8.1 Code

San Francisco Health Code, Article 12B: Soil Boring and Well Regulations; enacted by Ordinance 113-05; effective June 10, 2005

This ordinance specifies requirements for well and soil boring construction, modification, operation, and maintenance; as well as well inactivation and destruction. However, only the requirements pertaining to the withdrawal of groundwater from production wells are summarized below.⁶

8.2 Purpose

Protect the health, safety, and general welfare of the people of the City and County of San Francisco by ensuring that local groundwater resources designated for beneficial uses will not be polluted or contaminated.

8.3 Who Must Comply

Triggers

Owner, or the corresponding property owner, of a well that is to be used for withdrawing groundwater.

Exemptions

No properties that meet the above requirements are exempt from this ordinance.

8.4 Technical Requirements

Install, operate, and maintain the well in accordance with the requirements of the ordinance (e.g., Department of Water Resources Bulletin 74 Water Well Standards).

⁶ This ordinance is administered and enforced by the DPH Environmental Health Section Well Program. However, SFPUC is responsible for permitting the withdrawal of groundwater, which is a small part of the overall scope of this ordinance. In addition, discharges of drilling fluids or water extracted from a well or soil boring to into the sanitary sewer must be approved by SFPUC.

8.5 Institutional Requirements

- Submit an Environmental Evaluation Application to the San Francisco Planning Department to conduct an environmental determination
- Submit an Application for Use of Water Well to the SFPUC; obtain approval from SFPUC
- Per SFPUC's general terms of approval:
 - Report water use to SFPUC on a quarterly and annual basis
 - Maintain records of total pumping on a quarterly basis for a minimum of three years
 - Within 60 days of commencement of well pumping, submit to SFPUC the latitude, longitude, and elevation of the well
 - Meet other general terms, as applicable (listed on the back of the Application for Use of Water Well)
- Submit an Application for Permit to Operate a Well to DPH; obtain a Permit to Operate from DPH

For more information about SFPUC's approval process, refer to the Factsheet and Application for Use of Water Well.

For more information about DPH's permitting process, refer to the DPH Well Program web page: <http://www.sfdph.org/dph/eh/Wells/default.asp>

In addition, the flowchart in Figure 8-1 guides the project proponent through the compliance process, starting at the green boxes (depending on if the project proponent is interested in drilling or withdrawing).

8.6 Contact Information and Resources

Program web page: <http://sfwater.org/index.aspx?page=685>
Program e-mail address: groundwater@sfwater.org
Program phone number: (415) 554-3271

The following resources are posted at the Water Well Use Regulations web page:

- Factsheet and Application for Use of Water Well
- San Francisco Planning Department Environmental Planning Web Page
- San Francisco Planning Department Environmental Evaluation Application
- San Francisco Department of Public Health Well Program Web Page
- San Francisco Department of Public Health Application for Permit to Operate a Well

The DPH Environmental Health Section administers this ordinance via its Well Program, and provides these additional resources:

- Program web page: <http://www.sfdph.org/dph/eh/Wells/default.asp>
- Soil Boring and Well Regulations (Health Code, Article 12B)
- Department of Water Resources Bulletin 74 Water Well Standards
- Well Definitions

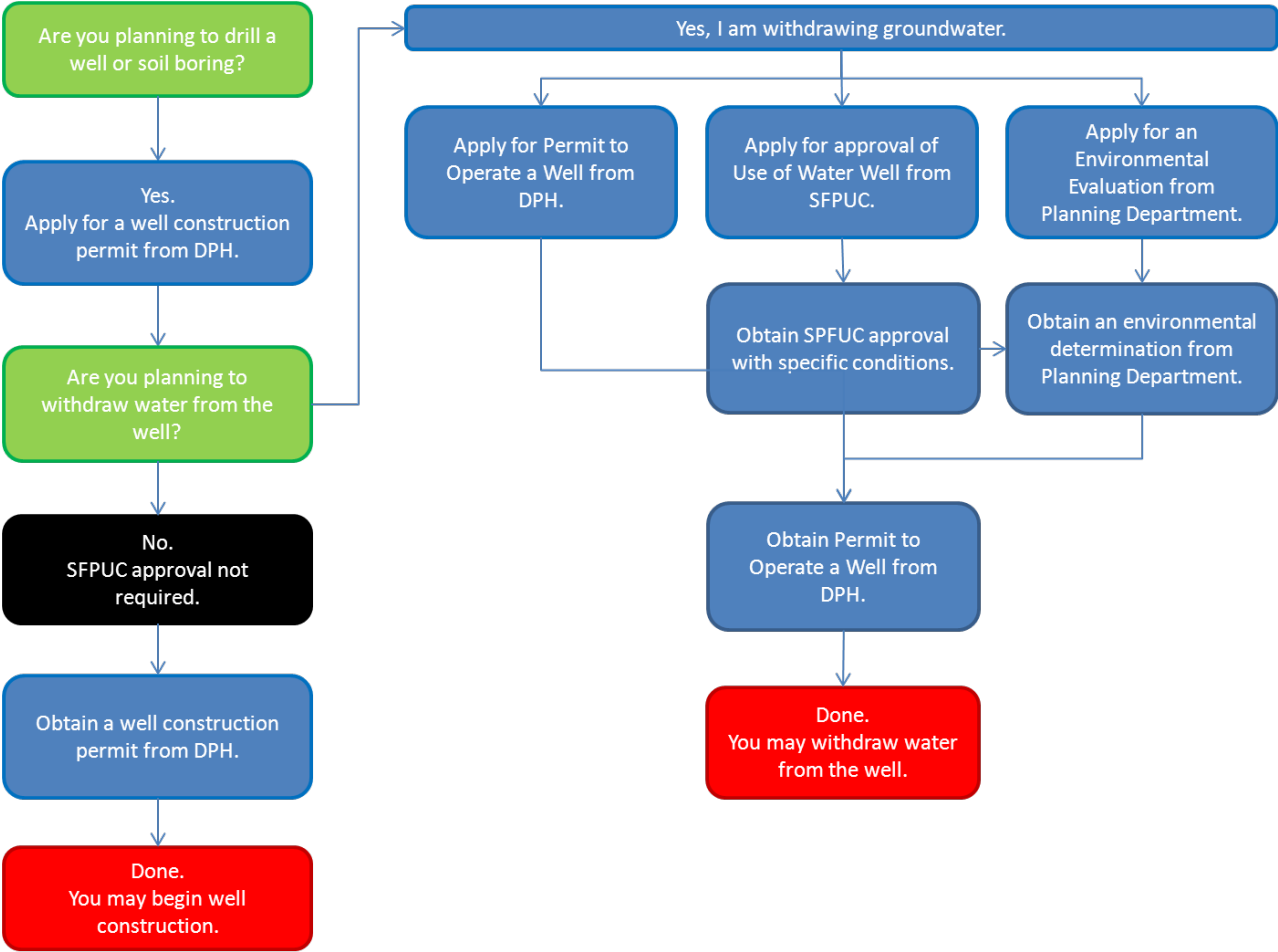


Figure 8-1. Water Well Use Regulations Compliance Flowchart

9 New Fire Service Connections

9.1 Guidance for Property Owners and Designers

All new fire service connections two inches in diameter and larger are required to undergo hydraulic analysis prior to approval and installation. Hydraulic Analysis is initiated when the customer applies for service at SFPUC Customer Services Bureau New Installations. CDD will perform the hydraulic analysis and notify the customer of the results. If CDD determines there is inadequate hydraulic capacity, the customer will be responsible for the cost of water system upgrades required to meet the demand increases.

9.2 Purpose

To provide water for fire suppression while ensuring the proper hydraulic capacity of the water distribution system.

9.3 Who Must Comply

All projects requiring a fire service two inches in diameter and larger. The fire service size must be approved by San Francisco Fire Department Plan Check prior to applying for fire service installation.

9.4 Technical Requirements

Compliance with all CDD requirements for hydraulic analysis and water main upgrade as applicable.

9.5 Institutional Requirements

- Submit a Request for Water Flow Information form at San Francisco Fire Department Plan Check. The results will determine the available pressure and flow in the water distribution main at the proposed point of connection. This information is required to complete the sprinkler system design.
- Obtain San Francisco Fire Department approval of the underground service size.
- Apply in-person at Customer Services Bureau for all new water services.
- Comply with all new service requirements outlined in Section 11, including backflow prevention.
- Submit a completed Request for Hydraulic Analysis form, as required by Customer Services Bureau.
- Pay any fees associated with hydraulic analysis, as required by CDD Engineering.

- Comply with all findings of hydraulic analysis, including water main upgrades or extensions.

9.6 Contact Information and Resources

For more information about new water services, refer to Section 11 New Water Service Installations or contact:

Customer Services Bureau, New Service Installation
525 Golden Gate Ave., 2nd Floor
San Francisco, CA 94102
(415) 551-2900

For more information about SFPUC's hydraulic analysis, contact:

City Distribution Division
1990 Newcomb Ave.
San Francisco, CA 94124
(415) 550-4994
CDDEngineering@sfgwater.org

The following resources are posted at the New Fire Service Connections web page at <http://sfgwater.org/index.aspx?page=875>:

- New Fire Service Application and Installation Process Flow Chart
- Request for Hydraulic Analysis for Water Distribution System Capacity Form
- San Francisco Fire Department Request for Flow Information Form
- San Francisco's General Requirements for Installation of Backflow Prevention Assemblies

10 New and Relocated Fire Hydrants

10.1 Guidance for Property Owners and Designers

During the design and site permitting stage of a construction project, a new fire hydrant or the relocation of an existing fire hydrant may be required by the California Fire Code or San Francisco Fire Code. All new or relocated hydrants shall obtain approval from the San Francisco Fire Department.

SFPUC is responsible for the installation and operation of all public fire hydrants. To ensure that all newly installed fire hydrants meet the flow and pressure requirements, CDD will perform a hydraulic analysis of the water system. If it is determined there is inadequate hydraulic capacity, the customer will be responsible for water system upgrades required to meet the demand increases.

10.2 Purpose

To provide for fire hydrants for fire suppression and to maintain the hydraulic capacity of the water system through hydraulic analysis.

10.3 Who Must Comply

All customers requesting a new hydrant or to relocate an existing fire hydrant.

10.4 Technical Requirements

Compliance with all California Fire Code and San Francisco Fire Code regulations regarding fire hydrants.

10.5 Institutional Requirements

- Obtain fire hydrant approval from the San Francisco Fire Department Plan Check.
- Apply for new or relocated fire hydrant in-person at the Customer Services Bureau (CSB).
- Obtain approvals of all affected parties, including San Francisco Department of Public Works and San Francisco Mass Transit Authority, for fire hydrant location.
- Submit Cost Estimate for Installation/Relocation of Low Pressure Hydrant form to CSB.
- Pay all fees associated with hydraulic analysis (if required)

- Comply with all findings of hydraulic analysis, potentially including water main upgrades.
- Pay all fees associated with fire hydrant installation and relocation.

10.6 Contact Information and Resources

For more information about fire hydrant approvals, contact:

San Francisco Fire Department, Plan Check
1660 Mission Street, 5th Floor
San Francisco, CA 94103
(415) 558-6177
<http://sf-fire.org/index.aspx?page=1282>

For more information about requesting new or relocated fire hydrants, contact:

Customer Services Bureau
525 Golden Gate Ave., 2nd Floor
San Francisco, CA 94102
(415) 551-2900

For more information about SFPUC's hydraulic analysis, contact:

City Distribution Division
1990 Newcomb Ave.
San Francisco, CA 94124
(415) 550-4994
CDDEngineering@sfgwater.org

The following resources are posted at the New and Relocated Fire Hydrants web page at <http://sfgwater.org/index.aspx?page=874>:

- New and Relocated Fire Hydrant Application and Installation Process Flow Chart
- Request for Cost Estimate for Installation/Relocation of Low Pressure Hydrant
- Fire Department Request for Water Flow Information Form

11 New Water Service Installations

11.1 Guidance for Property Owners and Contractors

Water services in San Francisco are provided through the SFPUC's Customer Services Bureau. New water service applications are handled by the New Service Installation section.

11.2 Purpose

To provide new or upgraded water services for basic water, fire service installations and/or irrigation services based on the submission of all applications, permits and checklists required to be eligible to receive water service(s).

11.3 Who Must Comply

Anyone applying for new water service, new fire service or any upgrades to irrigation systems or plumbing that would alter the size of the meter or change the location of the meter.

11.4 Technical Requirements

Compliance with all requirements for backflow prevention associated with the service installation or placement

11.5 Institutional Requirements

- Apply in person at Customer Services Bureau, New Service Installation, located at 525 Golden Gate Ave., 2nd Floor, San Francisco, CA
- If your service requires backflow protection (prevention) at the service connection to the city's water supply system, you will be contacted by an Inspector from the Water Quality Division of SFPUC.
- Any required backflow prevention assembly or assemblies must be installed and then tested and inspected by a Water Quality Inspector within 5 days of installation. Water service will only be provided after the testing and inspections are complete.
- Backflow prevention assemblies must be tested annually.

The flowchart in Figure 11-1 guides the applicant through the installation processes for basic water, irrigation, and fire service.

11.6 Contact Information and Resources

Additional information can be found at the Stop or Start Service web page (<http://www.sfwater.org/index.aspx?page=47>), including the Rules and Regulations Governing Water Service to Customers.

For more information about SFPUC's New Installation Process, contact:

Customer Services Bureau, New Service Installation
525 Golden Gate Ave., 2nd Floor
San Francisco, CA 94102
(415) 551-2900

For information about Backflow Prevention Requirements, contact:

Water Quality Division
Cross-Connection Control Program
P.O. Box 730
Millbrae, CA 94030-0730
(650) 652-3199
backflow@sfwater.org

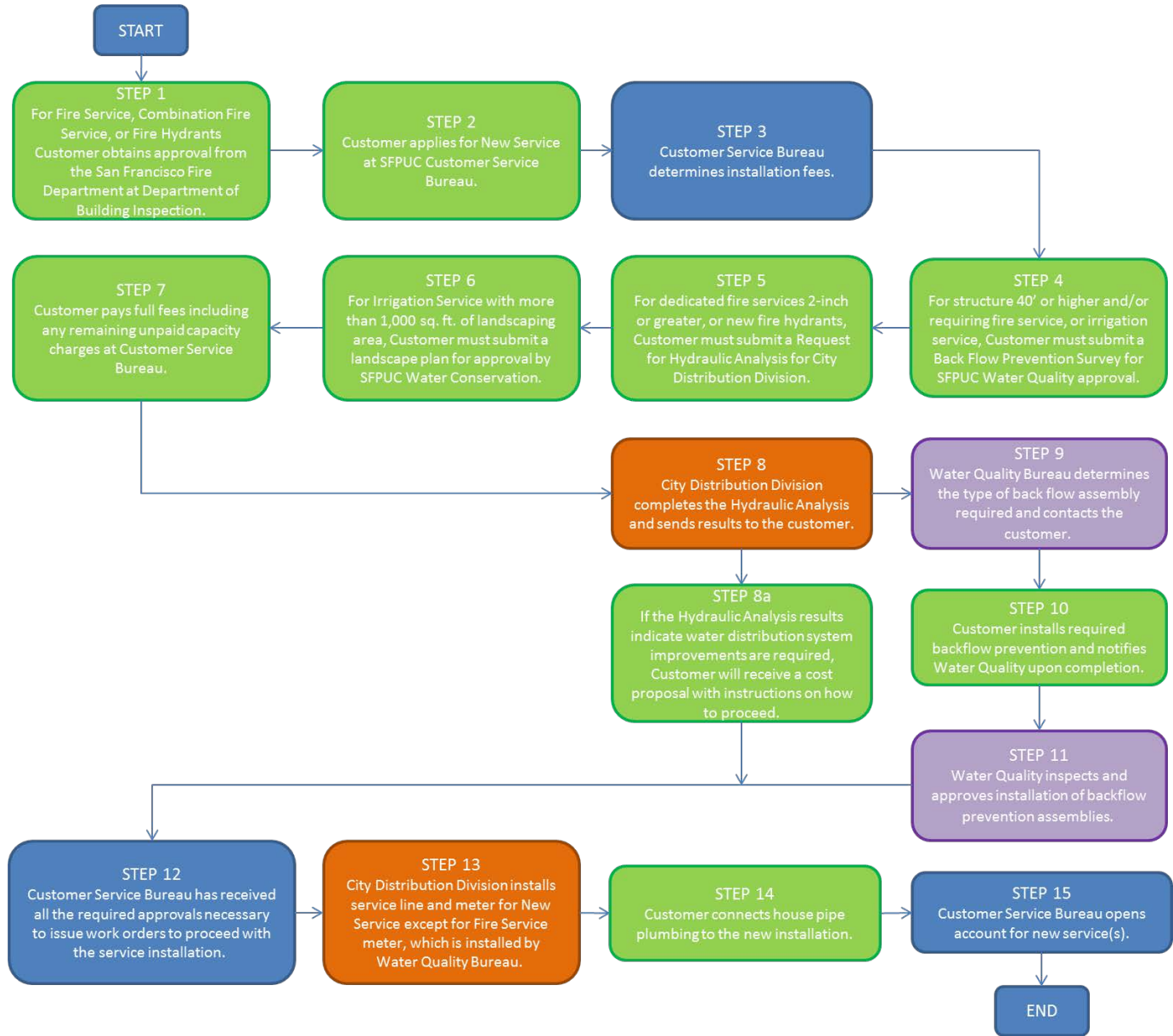


Figure 11-1. New Installation Flowchart

12 Residential Water Submetering

12.1 Code

California Water Code, Division 1, Chapter 8, Article 5, Section 537-537.5 as added by Senate Bill 7 (Stats. 2016, Ch. 623, Sec. 5.); effective January 1, 2018

Senate Bill 7 (SB 7) requires new multi-family residential buildings in California constructed after January 1, 2018 to include a submeter for each dwelling unit and to bill tenants in apartment buildings accordingly for their water use. SB 7 directs that the California Building Standards Code be updated to require the installation of submeters in multi-family residential buildings, and this update could take effect as soon as January 1, 2020. Until then, the requirement will be enforced by water purveyors per the Water Code as amended by SB 7. Therefore, this section only describes these interim requirements established in the Water Code.

12.2 Purpose

- Encourage the conservation of water in multi-family residential rental buildings through means either within the landlord's or the tenant's control

12.3 Who Must Comply

Triggers

This requirement applies to any project that includes new construction of a multi-family residential structure or mixed-use residential and commercial structure, and:

- applies for a site permit from DBI on or after January 1, 2018, and
- applies for new water service from SFPUC on or after January 1, 2018.

Exemptions

- Low-income housing, meaning a residential building financed with low-income housing tax credits, tax-exempt mortgage revenue bonds, general obligation bonds, or local, state, or federal loans or grants, for which the rents of the occupants in lower income households, as defined in Section 50079.5 of the Health and Safety Code, do not exceed rents prescribed by deed restrictions or regulatory agreements pursuant to the terms of the financing or financial assistance, and for which not less than 90 percent of the dwelling units within the building are designated for occupancy by lower income households, as defined in Section 50079.5 of the Health and Safety Code.
- Housing at a place of education, as defined in Section 202 of the California Building Standards Code (Title 24 of the California Code of Regulations).

- Long-term health care facilities, as defined in Section 1418 of the Health and Safety Code.
- Time-share property, as defined in subdivision (aa) of Section 11212 of the Business and Professions Code.
- Residential care facilities for the elderly, as defined in Section 1569.2 of the Health and Safety Code

12.4 Technical Requirements

Technical details related to metering and plumbing system configurations may be included in the future California Building Standards Code update, but are not specified in the interim Water Code. The SFPUC intends to enforce only what is specified in the interim Water Code (see institutional requirements below). However, minimal technical guidance will be provided where possible. A FAQs document posted at www.sfwater.org/reqs/submetering will be updated with technical guidance as more information is collected. At a minimum, applicable properties shall abide by the following:

- Install submeters for residential dwelling units. Units that are used only for commercial purposes are not required to be submetered.
- Submeters used to bill tenants based on metered water use must be a legal-for-trade device which has been tested and certified for accuracy by a California County Sealer who has the necessary facilities. Once they are installed, these meters must be registered with, and inspected by, the staff of the San Francisco County Sealer as a part of the San Francisco Department of Public Health (DPH) Weights and Measures Program.

12.5 Institutional Requirements

- Apply for a site permit from DBI on or after January 1, 2018. Include submetering in site plans. If it is determined during SFPUC review of the site plans (plan check) that submetering is insufficient, SFPUC will contact the applicant to revised and resubmit its plans.
- Apply for new water service from SFPUC on or after January 1, 2018. Water service applications that are associated with a site permit application with plans that were determined to show sufficient submetering will be routed forward for approval.

The flowchart in Figure 12-1 guides the applicant through the compliance process.

12.6 Contact Information and Resources

Requirement web page: <http://www.sfwater.org/reqs/submetering>
General e-mail address: niapprovals@sfwater.org
General phone number: (415) 551-2900

The following resources are posted at the requirement web page:

- FAQs on Residential Water Submetering in San Francisco

- Compliance flowchart
- California Apartment Association Industry Insight on California Water Submeter Requirements for Multi-Family Housing Installation, Reading, Disclosure & Billing

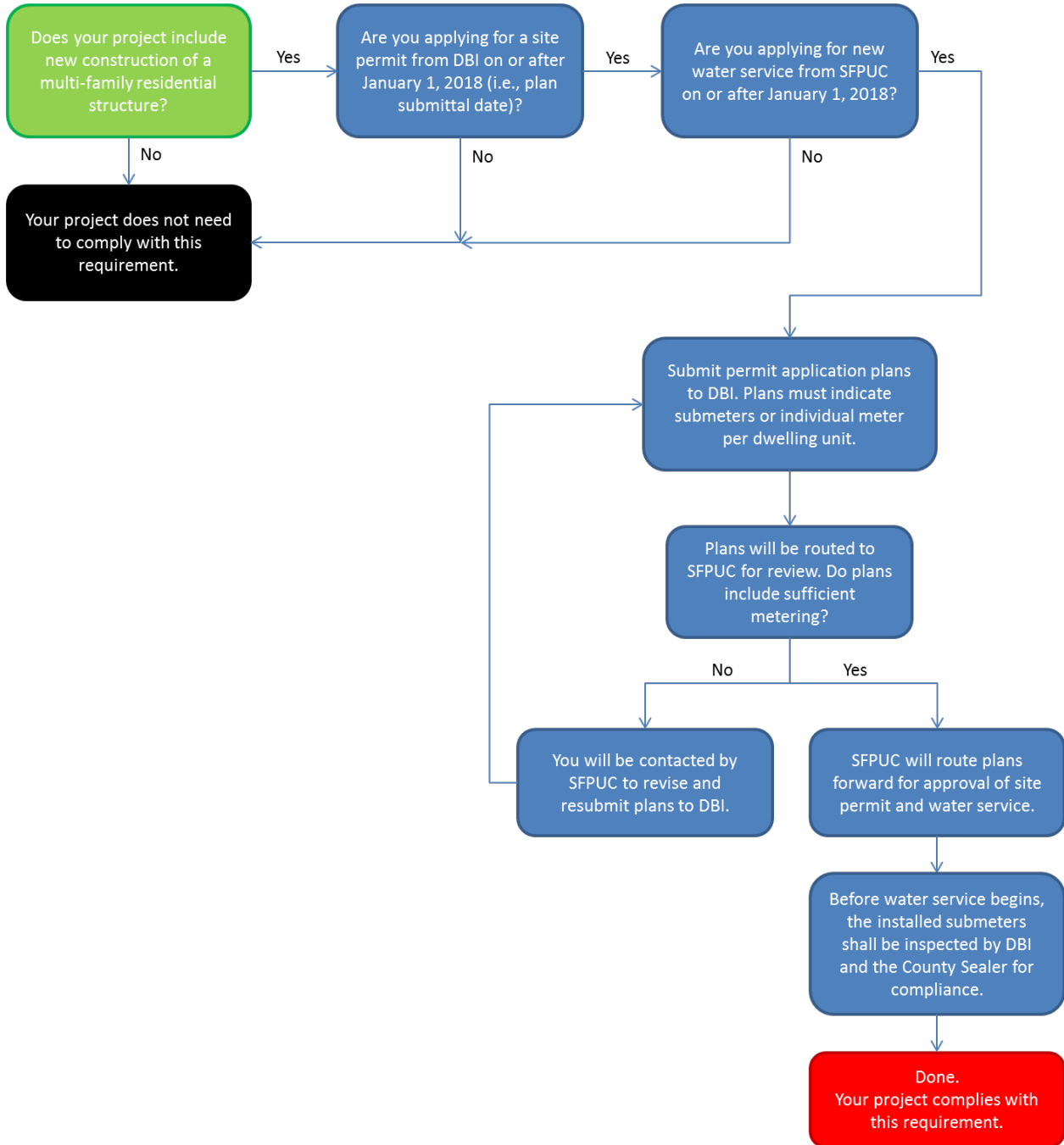


Figure 12-1. Residential Submetering Compliance Flowchart

13 Water and Wastewater Capacity Charge

13.1 Code

Water Capacity Charge: SFPUC Resolution No. 07-0099

Wastewater Capacity Charge: SFPUC Resolution No. 07-0100

Both resolutions were adopted June 12, 2007; updated through SFPUC Resolution 14-0072 effective July 1, 2014.

13.2 Purpose

A Capacity Charge requires new users/developers to buy into the wastewater and water system on par with the average investment or equity that existing users have funded through rates and charges. The adopted equity buy-in approach requires these developers to buy into the system at a value or cost equal to the investment already contributed by existing users.

The primary objectives of a Capacity Charge are the following:

- to provide a mechanism by which users who create new or additional demand on the water distribution and/or the wastewater system can pay for the cost of the facilities required to serve them; and
- to achieve equity in distributing costs.

13.3 Who Must Comply

Water Capacity Charge:

Any user requesting a new connection to the water distribution system, or requiring additional capacity as a result of any addition, improvement, modification, or change in the use of an existing connection to the water distribution system, shall pay a Capacity Charge for the new or additional capacity required to serve the customer. A Capacity Charge is assessed based on the rate in effect when SFPUC receives the final permit application and building plans. Customer subject to payment of the Water Capacity Charge shall receive prior use credit equal to the equivalent charge for the prior usage without any regard to any time limit for such credit.

Wastewater Capacity Charge:

Any user requiring additional wastewater collection and treatment capacity as a result of any addition, improvement, modification, or change in use, shall pay a Capacity Charge for the new or additional capacity to serve the customer. A Capacity Charge is assessed based on the rate in effect when SFPUC receives the final permit application and building plans. Customers subject to payment of the Wastewater Capacity Charge shall receive prior use credit equal to the equivalent charge for the prior usage without regard to any time limit for such credit.

13.4 Technical Requirements

There are no technical requirements, such as code or design standards, that the customer must meet to fulfill the Capacity Charge requirement. The customer who submits a permit application and building plans to DBI and is assessed a Capacity Charge will pay the assessed Capacity Charge at DBI as described in the next section.

13.5 Institutional Requirements

The Capacity Charge is assessed based on the water meter size as determined by the number and type of water fixtures identified in the building plans submitted to DBI. The methods SFPUC uses to calculate Capacity Charges are described below. The Capacity Charges are added to the DBI permit fees, and the customer must pay 100% of the Capacity Charges prior to issuance of the applicable site permit or building permit from DBI. If full payment of all fees and charges is not received in accordance with SFPUC's payment requirements, the new building permit will not be issued and new or additional water or wastewater services will not be authorized.

The flowchart in Figure 13-1 guides the applicant through the Capacity Charge process.

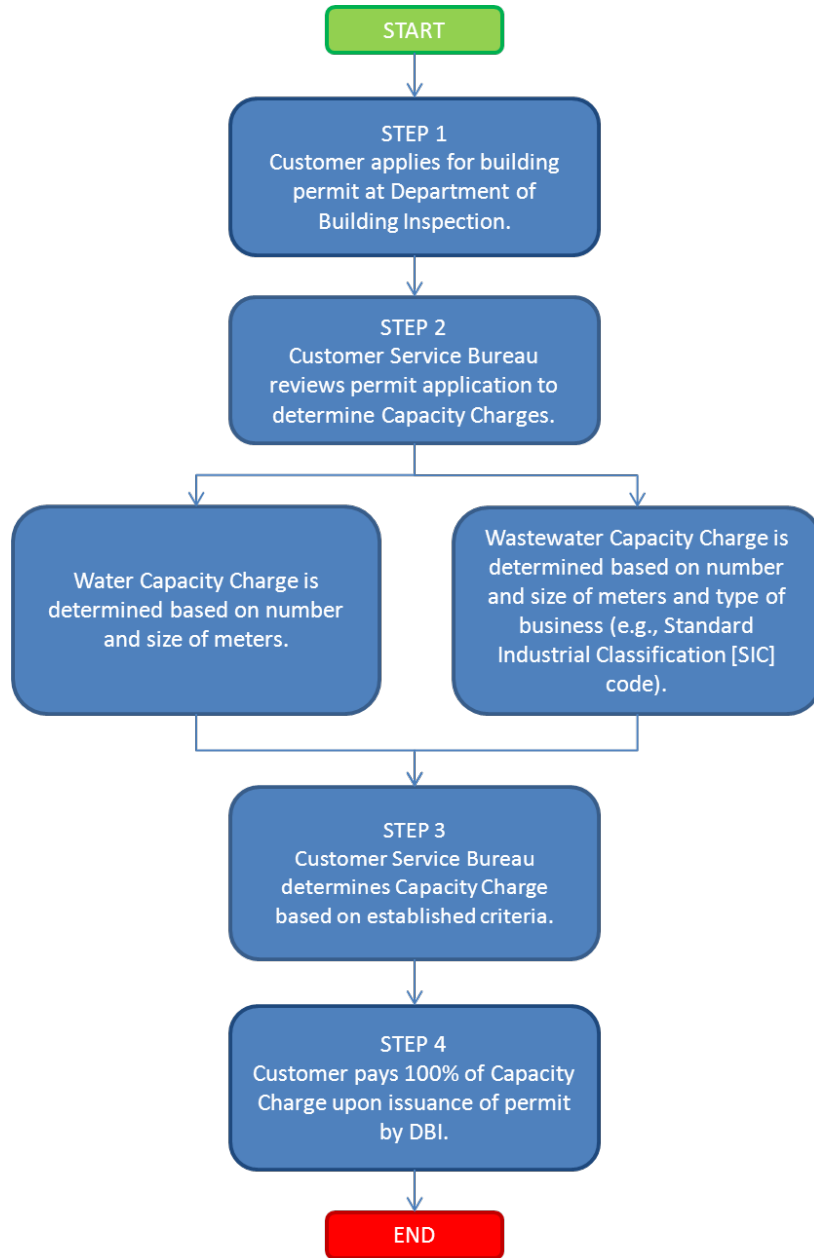
13.6 Contact Information and Resources

Program web page: sfwater.org/capacitycharge
Program e-mail address: capacitycharges@sfwater.org
Program phone number: (415) 575-6941

The Capacity Charge web page has links to the following resources:

- Rates Schedules for Water Power and Sewer Service

For a schedule of fees and more information on Capacity Charges, please pick up an FAQ sheet at DBI: 1660 Mission St., San Francisco 94103, 1st and 5th Floors.



**See rate schedule for more detailed information*

Figure 13-1. Water and Wastewater Capacity Charge Flowchart

14 Stormwater Management Ordinance

14.1 Code

Stormwater Management Ordinance: San Francisco Public Works Code, Article 4.2, sections 147 -147.6, effective May 22, 2010; amended May 27, 2016

14.2 Purpose

The San Francisco Stormwater Management Requirements and Design Guidelines (SMR) describe the requirements for stormwater management in San Francisco and give project proponents the tools to achieve compliance.

To protect and enhance the water quality in the City and County of San Francisco's sewer system, stormwater collection system and receiving waters by:

- minimizing increases in pollution caused by stormwater runoff from development that would otherwise degrade local water quality;
- controlling the discharge to the City's sewer and drainage systems from spills, dumping or disposal of pollutants; and
- reducing stormwater run-off rates, volume, and nonpoint source pollution whenever possible, through stormwater management controls, and ensuring that these management controls are safe and properly maintained.

14.3 Who Must Comply

Any new or redevelopment project that creates and/or replaces 5,000 square feet or more of impervious surface in the **separate and combined sewer areas** must comply with the Stormwater Management Ordinance as a "Large Project".

Any new or redevelopment project that creates and/or replaces 2,500 to 5,000 square feet of impervious surface in **separate sewer areas** must comply with the Stormwater Management Ordinance as a "Small Project".

Activities that create or replace impervious surface include, but are not limited to, the construction, modification, conversion, or alteration of any building or structure and the creation or replacement of outdoor impervious surfaces such as parking areas, driveways, or private street areas.

The SMR does not apply to the following activities:

- pavement maintenance activities such as top-layer asphalt grinding and repaving within the existing footprint;

- replacement of existing sidewalks and streets dedicated to and accepted by the City;
- interior remodeling projects;
- re-roofing;
- exterior wall surface replacement; or utility repair work requiring trenching or excavation with in-kind surface replacement.

14.4 Technical Requirements

New and redevelopment projects that are subject to the Stormwater Management Ordinance must meet the performance standards outlined in the SMR.

For “Large Projects” that are located in the combined sewer areas of the City, the performance requirement is as follows:

- For sites with existing imperviousness of less than or equal to 50%, stormwater runoff rate and volume shall not exceed pre-development conditions for the 1- and 2-year 24-hour design storm.
- For sites with existing imperviousness of greater than 50%, stormwater runoff rate and volume shall be decreased by 25% from the 2-year 24-hour design storm.

For “Large Projects” that are located in the separate sewer areas (MS4) of the City, the performance requirement is as follows:

- Capture and treat the rainfall from a design storm of 0.75 inches.

For “Small Projects” that are located in the separate sewer areas (MS4) of the City, the performance requirement is as follows:

- Implement at least one Site Design Measure
- Submit an estimated runoff reduction volume to the SFPUC using the State Water Board SMARTS Calculator.

14.5 Institutional Requirements

Large Projects that are subject to the Stormwater Management Ordinance are required to submit a Stormwater Control Plan to the SFPUC for review and approval. Additionally, all stormwater controls developed in compliance with the Stormwater Management Requirements and Design Guidelines must be maintained by the property owner in perpetuity in accordance with the operation and maintenance plan included in the approved Stormwater Control Plan. The property owner must also record a Maintenance Agreement to acknowledge and accept this maintenance responsibility.

Small Projects in the separate sewer area must implement at least one Site Design Measure (as outlined in Chapter 6 of the SMR) and submit the estimated runoff reduction volume using the State Water Board SMARTS Calculator.

14.6 Contact Information and Resources

Ordinance web page: <http://www.sfwater.org/smr>
General e-mail address: stormwaterreview@sfwater.org
General phone number: none

The SMR web page has links to the following resources:

- Stormwater Management Requirements and Design Guidelines, including:
 - Appendix A. BMP Fact Sheets
 - Appendix B. Green Stormwater Infrastructure Typical Details and Specifications
 - Appendix C. Criteria for Infiltration-Based BMPs
 - Appendix D. Vegetation Palette for Bioretention BMPs
 - Appendix E. Illustrative Green Infrastructure Examples
- SMR Summary Flyer
- Stormwater Management Ordinance
- SFPUC SMR - Informational Letter
- SMR Frequently Asked Questions

BMP Sizing Calculators

- Separate Sewer Area BMP Sizing Calculators - Water Quality
- Combined Sewer Area BMP Sizing Calculator - Quantity Control
- State Water Board SMARTS Calculator

Hydrologic Calculation Methods and Background Information

- SFPUC Accepted Hydrologic Calculation Methods
- Combined Sewer Area BMP Sizing Calculator Approach using the Santa Barbara Urban Hydrograph Method
- Design Storms: 1-year and 2-year 24-hour Design Storms

Stormwater Control Plans (SCP)

- SCP Instructions
- SCP Project Information Form
- SCP Technical Report Templates
- SCP Preparation Checklists
- Stormwater Management Plan Example

Maintenance Agreement Planning

- Maintenance Agreement Template
- Maintenance Agreement Recordation Instructions

15 Soil Compaction and Dust Control Ordinance

15.1 Code

San Francisco Public Works Code, Article 21: Restriction of Use of Potable Water for Soil Compaction and Dust Control Activities; enacted by Ordinance 175-91; effective April 10, 1991

15.2 Purpose

Preserve high-quality potable water for drinking purposes by prohibiting the use of potable water supplies for soil compaction and dust control when alternative supplies are available.

15.3 Who Must Comply

Triggers

- Soil compaction and/or dust control activities undertaken in conjunction with construction or demolition projects occurring within the boundaries of the City and County of San Francisco

Exemptions

- Soil compaction and/or dust control activities performed at a construction or demolition site where recycled water, well water, or groundwater is not available in sufficient quality and quantity within 10 miles and are granted permission to use potable water by the General Manager of the SFPUC
- Small construction or demolition projects that commonly consume less than approximately 500 gallons of water per day

15.4 Technical Requirements

No technical requirements are specified in the ordinance, other than transport and use of non-potable water shall be in accordance with the orders, standards, and regulations of the State Health Department, State Water Resources Control Board, Regional Water Quality Control Board, San Francisco Department of Public Health, and San Francisco Department of Public Works. Per State regulations, recycled water may be used for dust control on roads and streets, but use for demolition, pressure washing, or dust control through aerial spraying is not allowed.

15.5 Institutional Requirements

Projects subject to this ordinance may use the recycled water available at the Southeast Water Pollution Control Plant's (Southeast Plant) truck-fill station. To do so, the project proponent must call (415) 695-7378 to obtain permit application information, and complete and submit a Recycled Water User Permit Application to use the recycled water truck-fill station to the Wastewater Collection Systems Division (CSD). Upon issuance of a Recycled Water User Permit and Vehicle Registration by CSD, the project proponent must schedule access to the truck-fill station with the Southeast Plant Chief Engineer.

15.6 Contact Information and Resources

Fill station web page: <http://sfwater.org/index.aspx?page=953>
E-mail address: mfisher@sfwater.org
Phone number: (415) 695-7378

The Recycled Water User Permit Application is posted at the web page above. In addition, the ordinance is available at:
<http://www.sfwater.org/modules/showdocument.aspx?documentid=1295>

16 FOG (Fats, Oils, and Grease) Control

16.1 Code

San Francisco Public Works Code, Article 4.1, sections 140 -140.7. Ordinance No. 18-11, effective February 16, 2011.

16.2 Purpose

The purpose of the FOG Ordinance is to:

- Regulate the discharge of fats, oils, and grease into the City's sewer system by food service establishments.
- Prevent discharges of FOG to the sewer system. When poured down the drain, FOG hardens inside sewer pipes, constricting wastewater flow and clogging the pipes. This can lead to sewer overflows onto City streets.

16.3 Who Must Comply

San Francisco restaurants and other food service establishments that cook food, and therefore have grease in their wastewater discharges, must install grease capturing equipment (i.e. traps or interceptors).

Inspectors assign each food service establishment a FOG Discharger Category number (1, 2 or 3) that reflects their potential to discharge grease to the sewer system, and notify the establishment of their compliance requirements: (with 4 representing the lowest concern and 1 the highest concern)

- Category 4 = Limited Food Preparation Establishment [EXEMPT]
- Category 3 = Less Significant Grease Discharger
- Category 2 = Significant Grease Discharger but has grease-capturing equipment already installed
- Category 1 = Significant Grease Discharger

16.4 Technical Requirements

- Restaurants that have grease capturing equipment already in place need to properly maintain and service the equipment and ensure that all wastewater discharge lines that contain grease are plumbed through the grease capturing equipment.
- Restaurants that do not already have grease capturing equipment will be required to install an approved type of grease removal device within 60 days of notification by the City, unless a determination is made by an SFPUC Wastewater Inspector that it falls under the category of a "Less-Significant

Grease Discharger” and thus can install any type of grease capturing equipment (see table).

- New restaurants will be required to install a grease removal device before opening for business unless a determination is made by an SFPUC Wastewater Inspector that it is a “Less-Significant Grease Discharger” and thus can install any type of grease capturing equipment.

FOG Program Categories and Requirements:

FOG Category	Description	Requirements
Category 1	Generates significant FOG and establishment does not have grease-capturing equipment.	<ul style="list-style-type: none"> • Must install approved type of grease removal device or Grease Gravity Interceptor (no trap). • Must capture all grease-waste containing wastewater discharge lines.
Category 2	Generates significant FOG and establishment has grease-capturing equipment installed.	<ul style="list-style-type: none"> • Existing equipment must capture all grease-waste containing discharge lines, be properly sized and installed, and be fully operational and properly maintained and serviced. • May be required to install an approved type of Grease Removal Device or Interceptor if existing equipment is not operating properly, wastewater discharges exceed the local oil and grease limit, or FOG is causing sewer back-ups.
Category 3 (or “Less-Significant Grease Discharger”)	Establishment has food preparation activities that generate FOG but poses a less-significant risk of FOG discharge to sewers given the cooking equipment and fixtures in the kitchen.	<ul style="list-style-type: none"> • No change from existing City requirements. • All grease-waste containing wastewater discharge lines must be plumbed to grease capturing equipment. • Can install any type of equipment (passive trap, large interceptor or approved type of Grease Removal Device).
Category 4 (or “Limited Food Preparation Establishment”)	Only reheats or “hot-holds” food or assembles ready to eat food products	<ul style="list-style-type: none"> • No change from existing requirements - No equipment required

Restaurants must obtain applicable permit(s) from the Department of Building Inspection before installing the equipment (or from the San Francisco Port (Port) if the business is located on Port property).

16.5 Institutional Requirements

- Restaurants will be visited by an SFPUC Wastewater Inspector who will issue them a Wastewater Discharger ID Number and associated (no fee) permit documents.
- Restaurants will also be assigned a FOG Discharger Category number that reflects their potential to discharge grease to the sewer system and will indicate if grease capturing equipment is required (see table).

Restaurants that install an approved grease removal device can download and fill out the Installation Verification Form to receive a 14.2% reduction on the sewer service charge portion of their water/sewer bill.

16.6 Contact Information and Resources

Ordinance web page: <http://sfwater.org/index.aspx?page=480>
General e-mail address: chinson@sfwater.org
General phone number: (415) 695-7363

The FOG web page has links to the following resources:

- FOG Control Ordinance
- FOG Discharger Checklist (to determine their FOG Discharger Category)

Factsheets: (available in English, Chinese, and Spanish) (to find out their compliance requirements)

- Basic Facts for Restaurants and Food Service Establishments
- FOG Discharger Category 1 Fact Sheet
- FOG Discharger Category 2 Fact Sheet
- FOG Discharger Category 3 Fact Sheet
- Grease Capturing Equipment Fact Sheet)

Installation Verification Form

Maintenance Logs: (available in English, Chinese, and Spanish)

- Grease Trap / Interceptor Maintenance Log
- Grease Removal Device Maintenance Log

17 Industrial User Permit

17.1 Code

San Francisco Public Works Code, Article 4.1, originally approved in 1992 and amended in 1997.

17.2 Purpose

The SFPUC issues Industrial User Permits to regulate regular or continuous discharges into the sewer system that result from commercial or industrial operations. This is in compliance with the requirement to implement a Pretreatment Program under the NPDES permits issued to the City and County of San Francisco. SFPUC enforces the Pretreatment Program by regulating discharges from non-domestic sources into the City's sewer system.

The practice of removing pollutants from industrial and commercial wastewater before they are discharged into municipal sewage treatment systems is known as "pretreatment."

17.3 Who Must Comply

All sewer users in the City that plan to conduct regular or continuous discharges into the City's combined sewer system must obtain an Industrial User Permit from SFPUC. Such users include:

- Laundries
- Food Processors
- Hospitals
- Restaurants
- Dental Offices

17.4 Technical Requirements

The permits specify the conditions under which wastewater may be discharged into the sewer system. Permits are issued for a specified duration and are tailored to each user.

17.5 Institutional Requirements

Projects are required to submit the Industrial User Permit Application Form to the SFPUC Collection Systems Division.

17.6 Contact Information and Resources

Ordinance web page: <http://sfwater.org/index.aspx?page=498>

E-mail address: bdonald@sfwater.org

General phone number: (415) 695-7330

The program web page has links to the following resources:

- Industrial User Permit Application Form
- Industrial User Permit Application Instructions

18 Batch Wastewater Discharge Permit

18.1 Code

San Francisco Public Works Code, Article 4.1, originally approved in 1992 and amended in 1997.

18.2 Purpose

The SFPUC issues Batch Wastewater Discharge Permits to regulate non-routine, episodic, or other temporary discharges into the sewer system that result from commercial or industrial operations. This is in compliance with the requirement to implement a Pretreatment Program under the NPDES permits issued to the City and County of San Francisco. SFPUC enforces the Pretreatment Program by regulating discharges from non-domestic sources into the City's sewer system.

The practice of removing pollutants from industrial and commercial wastewater before they are discharged into municipal sewage treatment systems is known as "pretreatment."

18.3 Who Must Comply

All construction sites or other activity in San Francisco that result in non-routine, episodic, batch, or other temporary discharges to the City's combined sewer system must obtain a Batch Wastewater Discharge Permit from SFPUC.

Activities that might require a Batch Wastewater Discharge Permit include:

- dewatering of construction sites;
- dewatering of wells drilled to investigate or mitigate a suspected contaminated site;
- power washing of buildings or parking lots;
- water used for cleaning or hydrostatic testing of pipes or tanks; or
- any other activity that generates wastewater, other than from routine commercial or industrial processes.

18.4 Technical Requirements

The permits specify the conditions under which wastewater may be discharged into the sewer system. Permits are issued for a specified duration and are tailored to each user.

18.5 Institutional Requirements

Projects are required to submit the Batch Wastewater Discharge Permit Application Form to the SFPUC Collection Systems Division. A completed permit application should be submitted at least seven (7) days prior to the proposed commencement of the discharge.

18.6 Contact Information and Resources

Ordinance web page: <http://www.sfwater.org/index.aspx?page=498>

E-mail address: ailejay@sfwater.org

General phone number: (415) 695-7339

- Batch Wastewater Discharge Permit Application Form (Rev. May 2012)
- Batch Wastewater Discharge Permit Application Instructions (Rev. May 2012)

19 Construction Site Runoff Control

19.1 Code

Section 146, Article 4.2 of the San Francisco Public Works Code, effective January 2014.

19.2 Purpose

The purpose of this ordinance is to comply with State Water Board Order No. 2003-0005-DWQ and the Small MS4 Permit (Phase II) and to protect the existing combined sewer system infrastructure, to protect water quality by controlling the discharge of sediment or other construction pollutants from construction sites, preventing erosion and sedimentation due to construction activities and minimize costly damage to treatment facilities and processes.

19.3 Who Must Comply

All projects that include earth-disturbing activities, regardless of size, are required to implement Best Management Practices (BMPs), which should be maintained according to the Construction Site Runoff Control Program.

19.4 Technical Requirements

All projects, regardless of size must develop and maintain construction site runoff controls as outlined in the SFPUC handbook of approved construction site BMPs and /or the CASQA Stormwater Best Management Practice Handbook.

19.5 Institutional Requirements

Any construction or demolition activity disturbing 5,000 square feet or more of the ground surface, measured cumulatively must submit to the SFPUC an Erosion and Sediment Control Plan and a Construction Runoff Permit Application for review, approval and issuance of the Construction Site Stormwater Runoff Permit.

19.6 Contact Information and Resources

Ordinance web page: <http://www.sfwater.org/index.aspx?page=235>
General e-mail address: ailejay@sfwater.org
General phone number: (415) 695-7339

20 Sewer Connection and Lateral Ordinance (forthcoming)

The SFPUC Collections System Division is currently developing a new Sewer Connection Permit that will provide SFPUC with a formal review process for new connections to sewer mains in the public right-of-way. The Sewer Connection Permit Application will include hydraulic parameters to enable adequate sizing of the sewer lateral connection, evaluate hydraulic impacts to the sewer system downstream and identify inadequate hydraulic capacity of existing sewer mains that could result from a new sewer lateral connection or an expanded sewer lateral connection.

21 Factsheet

The attached factsheet was developed jointly by Water and Wastewater staff to briefly describe SFPUC's water, sewer, and stormwater requirements to developers. This factsheet, last updated in January 2018, includes most, but not all of the requirements contained in this Manual.

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San Francisco's Water, Sewer, and Stormwater Requirements

San Francisco has adopted water, sewer, and stormwater requirements that reduce demand on drinking water supplies and protect water quality and sewer system function. To assist you in meeting these requirements, the San Francisco Public Utilities Commission (SFPUC) provides project plan review, technical assistance, and offers incentives for implementation of efficient landscape practices, plumbing fixtures, and equipment.

Construction Site Runoff

Runoff from construction sites is a major source of stormwater contaminants. Construction sites are required to implement Best Management Practices (BMPs) to keep pollutants, such as dirt and debris, out of the City's sewer system and sensitive local water bodies. All construction sites must submit an Erosion and Sediment Control Plan as well as a Construction Runoff Permit Application to the SFPUC for review and approval. Sites that plan to conduct non-routine, episodic, batch, or other temporary discharges to the City's combined sewer system must obtain a Batch Wastewater Discharge Permit from the SFPUC.

Cross-Connection Control

The Cross-Connection Control Program protects the City's drinking water system from contamination caused by backflow. All properties with potential cross-connection or hazards, such as boilers, chemical feed equipment, and dedicated irrigation or interconnected fire sprinkler systems are required to install an approved backflow prevention assembly.

Fats, Oils, and Grease

The Fats, Oils, and Grease (FOG) Control Ordinance applies to all restaurants and food service establishments that generate grease in their wastewater discharges. The FOG Control Ordinance requires installation of grease capturing equipment such as automatic grease removal devices or gravity grease interceptors. Equipment shall be operational prior to wastewater discharge from food processing and/or kitchen areas to prevent FOG build-up and damage to the City's sewer system.

Non-Potable Water

New commercial, mixed-use, and multi-family residential development projects with 250,000 square feet or more of gross floor area that were issued a site permit after November 1, 2016, are required to install and operate an onsite non-potable water system. The project must meet its toilet and urinal flushing and irrigation demands through the collection, treatment, and use of available graywater, rainwater, and foundation drainage. While not required, projects may use treated blackwater or stormwater if desired. While not required to install an onsite system, projects between 40,000 and 250,000 square feet must submit a water budget application and water use calculator to the SFPUC that assesses available alternate water supplies and non-potable demands. To ensure the proper design, operation and maintenance of onsite non-potable water systems, permits are required from the San Francisco Department of Public Health, the Department of Building Inspection, and San Francisco Public Works (if applicable).

Water Well Use

To protect San Francisco's groundwater from contamination and unmanaged use, the City's Water Well Use Regulations require applications for all proposed groundwater withdrawals to be reviewed and approved by the SFPUC. In conjunction with this review process, an environmental determination under the California Environmental Quality Act must be conducted by the City Planning Department. Wells may only be constructed for industrial or irrigation uses. Well construction also requires an approved permit from the Department of Public Health.



For more information on compliance requirements and SFPUC incentive programs, visit sfwater.org/reqs.



Recycled Water

Projects located in the City's designated recycled water use areas are required to install recycled water systems for uses such as irrigation, cooling, and/or toilet and urinal flushing. New construction, subdivisions, or major alterations with a total cumulative area of 40,000 square feet or more, and any new, modified, or existing irrigated areas of 10,000 square feet or more are required to comply with the Recycled Water Ordinances. Condominium projects that were issued a building or site permit prior to January 1, 2008 are not required to include dual-plumbing for toilet flushing or cooling, but must include a recycled water irrigation system (if applicable). All other non-residential and residential occupancies must comply with all requirements.

San Francisco also restricts the use of potable water for soil compaction and dust control activities associated with construction or demolition projects. The SFPUC operates a recycled water truck-fill station at the Southeast Water Pollution Control Plant.

Stormwater Design Guidelines

To protect the water quality of San Francisco Bay and the Pacific Ocean, and to enhance the function of the City's sewer systems, the Stormwater Management Ordinance requires all new and redevelopment projects that disturb 5,000 square feet or more of ground surface, or surface over water, to comply with the Stormwater Design Guidelines and manage a portion of their stormwater on-site. Ground surface disturbance is measured cumulatively across the development project.

Water Efficient Landscape

To ensure the efficient use of water for the City's landscapes, all projects with 500 square feet or more of new or modified landscape area are required to comply with the Water Efficient Irrigation Ordinance, as amended in March 2016. Projects must design, install, and maintain efficient irrigation systems, utilize

low water-use plantings, and calculate a Maximum Applied Water Allowance, also known as a water budget.

Water Efficient Plumbing

The Residential and Commercial Water Conservation Ordinances require San Francisco properties to repair plumbing leaks and replace inefficient plumbing fixtures including toilets, urinals, faucets, and showerheads with high-efficiency models. Residential retrofits are required upon sale of the property or at the time of major improvements. Retrofits for commercial properties are required by 2017 or upon major improvements. For all properties a Certificate of Compliance is required from the Department of Building Inspection.

Hydraulic Capacity Assessment

To protect the hydraulic capacity of the local water distribution system, SFPUC City Distribution Division (CDD) requires hydraulic analysis of all new and relocated fire hydrants and all new fire service connections two inches in diameter and greater. It is the property owner's responsibility to initiate hydraulic analysis with CDD through the Customer Services Bureau (CSB). If CDD determines there is inadequate hydraulic capacity, the property owner will be responsible to pay for any system upgrades required to meet the demand increases.

Residential Water Submetering

To encourage water conservation by apartment renters, a new state law, Senate Bill 7, requires new apartment buildings constructed after January 1, 2018 to include a submeter for each dwelling unit and to bill tenants accordingly for their water use. Until state building standards are updated with this new requirement, interim submetering requirements established in the Water Code will be enforced in San Francisco by the SFPUC as a condition of the site permit issuance and water service to new multi-family residential buildings.

The SFPUC provides grant opportunities and free technical assistance to help projects use resources more efficiently and to meet local requirements:

- **Watershed Stewardship Grants**
- **Large Landscape Grants**
- **Plumbing Fixture Rebates and Equipment Grants**
- **Non-Potable Water Grants**
- **Free project plan review and consultations**
- **Free workshops and compliance guidebooks**

Incorporating these requirements early in your project's planning and design will help to avoid delays in the permitting process at the Department of Building Inspection. Please contact the SFPUC in the early stages of your project's development. For more information on compliance triggers and the permitting process, please visit sfwater.org/reqs.



Requirements Summary and Contact Information

Use the table below to determine if your project will need to comply with any of these requirements, and how to contact us. More information on each requirement can be found at sfwater.org/reqs.

If the property or proposed project includes...	...then may need to comply with these requirements:	E-mail	Phone
Landscape work totaling 500 sf or more (including green roofs and public parks)	Water Efficient Irrigation Ordinance	landscape@sfwater.org	(415) 551-4730
Residential dwelling (including apartments, condominiums, and residential hotels) undergoing major improvements or sale/transfer of title	Residential Water Conservation Ordinance	waterconservation@sfwater.org	(415) 551-4730
Commercial building, including mobile homes and portions of buildings used for commercial or live/work purposes	Commercial Water Conservation Ordinance	waterconservation@sfwater.org	(415) 551-4730
Project located in the Designated Recycled Water Use Area with: <ul style="list-style-type: none"> • 40,000 sf or more of new construction or major alterations, or • 10,000 sf or more of new or existing landscape area 	Recycled Water Use Ordinances	recycledwater@sfwater.org	(415) 554-3271
<ul style="list-style-type: none"> • 40,000 square feet or more of new construction • Voluntary installation of an alternate water source system (i.e., an on-site, non-potable water system) 	Non-potable Water Ordinance	nonpotable@sfwater.org	(415) 551-4734
Potential unprotected cross connection or hazard (such as a boiler, chemical feed equipment, dedicated irrigation, or interconnected fire sprinkler system)	Backflow Prevention Ordinance	backflow@sfwater.org	(650) 652-3199
Groundwater pumping/withdrawal from a well	Water Well Use Regulations	groundwater@sfwater.org	(415) 554-3271
New water service, new fire service or any upgrades to irrigation systems or plumbing that would alter the size of the meter or change the location of the meter	New Water Service Installations	info@sfwater.org	(415) 551-2900

Continued on next page....

If the property or proposed project includes...	...then may need to comply with these requirements:	E-mail	Phone
New fire service connections two inches in diameter and greater	New Fire Service Connections	CDDEngineering@sfgwater.org	(415) 550-4994
New or relocated fire hydrant	New and Relocated Fire Hydrants	CDDEngineering@sfgwater.org	(415) 550-4994
New construction or a multi-family residential structure or mixed-use residential and commercial structure	Residential Water Submetering	niapprovals@sfgwater.org	(415) 551-2900
A new connection to the water distribution system or need for additional capacity as a result of adding additional water fixtures or larger water fixtures	Water Capacity Charge	capacitycharges@sfgwater.org	(415) 575-6941
A new connection or need for additional wastewater collection and treatment capacity as a result of new construction, new additions, developing existing space into “conditioned” square footage or a change of business use	Wastewater Capacity Charge	capacitycharges@sfgwater.org	(415) 575-6941
Creation and/or replacement of 2,500 sf or more of the impervious surface	Stormwater Management Ordinance	stormwaterreview@sfgwater.org	none
Soil compaction and/or dust control activities during construction or demolition	Soil Compaction and Dust Control Ordinance	mfisher@sfgwater.org	(415) 695-7378
Restaurants or other food service establishments	Fats, Oils and Grease (FOG) Control Ordinance	chinson@sfgwater.org	(415) 695-7310
Regular or continuous discharges into the City’s combined sewer system, such as Laundries, Food Processors, Hospitals, Restaurants, and/or Dental Offices	Industrial User Permit	ttakeshita@sfgwater.org	(415) 695-7369
Non-routine, episodic, batch, or other temporary discharges to the City’s combined sewer system, such as dewatering, power washing, pipe or tank cleaning, etc.	Batch Wastewater Discharge Permit	ttakeshita@sfgwater.org	(415) 695-7369
Earth disturbing activities	Construction Site Runoff Ordinance	ailejay@sfgwater.org	(415) 695-7339