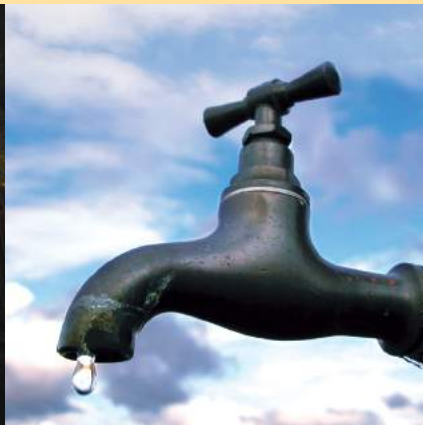


San Francisco Public Utilities Commission Rules and Regulations Governing Water Service to Customers



**Established by Resolution No. 19.786
Passed December 15, 1959
by the Public Utilities Commission**

**Effective January 1, 1960 with
Amendments to February 13, 2001**



San Francisco
**Water
Power
Sewer**



**San Francisco Water Enterprise
Public Utilities Commission**

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1155 Market Street
San Francisco, California 94103

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SECTION A – INSTALLATION OF SERVICES

Rule 1.

Application for Service

The owner or authorized agent of the property to be served shall make written application to the Water Enterprise (hereinafter referred to as “Water Department” or “the Department”) for service before extending the house pipe to the curb. Applications shall include the desired location and size of service pipe and meter, fixtures to be supplied or quantity of water required in gallons per minute, the use or class of occupancy of the premises, the area to be supplied, and any other information which shall aid the Department in providing adequate service. Applications for fire service shall include any special requirements of the Fire Department or the Underwriters having jurisdiction. No application for service from an existing main will be considered where the meter(s) for the property to be supplied will be located at an elevation of less than 100 feet below the outlet level of the reservoir supplying the main, unless the applicant agrees to accept such existing water supply and service to the said property as constituting full performance by the Department of its obligation. The Department shall not be responsible for inadequate or improper installations resulting from lack of information in the application.

(Paragraph as amended August 16, 1966. Resolution No. 66-0662)

All standard and non-standard services two inches (2”) and larger shall be for use in the area or premises as defined in the application which shall include a term agreement with the terms and conditions fully set forth in the application for such service.

All services of the Department are supplied with the understanding that the applicant agrees to abide by the Rules and Regulations and the Rate Schedules of the Department as they now exist or as they hereafter may be amended.

Rule 2.
Installation of Service

Service connections will be installed, at the expense of the applicant, from the Department's mains to the meter at the opposite curb line of public streets in which the mains are located and clear of driveways or other obstructions. The meter or meters will be installed on the service inside the curb line or as near thereto as possible. Where the main is in a right of way or easement owned or controlled by the Department, the service will not be extended beyond such right of way or easement.

Where the Department has no main installed, the applicant must arrange for main extension or extend his house piping to the curb of a street occupied by the Department's mains.

No service will be installed on any private road, lane, street, alley, court or place, or extended beyond the curb of the street in which the Department's mains are installed. Applicants desiring such service must extend their housepiping.

The Department reserves the right to determine the location and size of service and meter, to limit the number of houses or buildings and the area of land to be supplied by one service connection, and to refuse service if it considers such service to be detrimental to existing services or to the interests and operations of the Department or to the interests of the City and County of San Francisco. The Department shall determine the class of service, taking into consideration the type of structure, the use of the service, volume of water usage and other pertinent factors.

When more than one consumer is supplied through one service connection and meter, the Department will hold the accepted applicant responsible for the bills for all water supplied. If separate billing is desired, additional services or meters will be installed and bills rendered accordingly, provided the house piping is segregated and brought to the curb line of the property.

For the purposes of determining charges for installation of water services (Schedule W-41) under the established rate schedules, a service installation shall be understood to mean the connection to the main, the pipe from the main to the meter, appurtenant valves and fittings, and the meter box and appurtenances; and the size of the pipe from the main to the meter shall determine the amount of the installation charge. However, for service pipes normally 2 inches or smaller in size, the Department may, at its discretion, install a larger or smaller size pipe from the main to the meter than is normally required in which case the normally required size of pipe shall determine the amount of the installation charge. For service pipe installations over 2 inches in size or when in the opinion of the Department any unusual conditions may result in costs more than 15 percent higher than the charges in the rate schedule, the applicant shall pay the actual costs of installation. Service charges (Schedules W-1, W-21 and W-25) shall be predicated on the size of meters installed on the service connection.

All pipe, valves, fittings, equipment, materials, meters, etc., up to and including the outlet equipment from the meter or meters shall remain the property of the Department.

Rule 3.
Standard Service

Service for immediate and permanent use for standard residential, commercial or industrial purposes and complying in all respects with the provisions of the Department as to size, location and usage will be classed as standard service. The necessary meter or meters will be furnished and installed by the Department without charge.

Rule 4.

Non-Standard Service

Service for temporary or intermittent use or for purposes not deemed by the Department to comply with its requirements for standard service will be classed as non-standard service. The installation charge shall include the costs of the metering equipment and its installation.

The cost of the metering equipment, less removal costs, may be returned to the original applicant if, within two years of installation, service is terminated and the metering equipment recovered by the Department without damage. Non-standard service extending beyond two years that in fact becomes standard service as defined in Rule 3, Section A, may be declared by the Department to be standard service, and the costs of the metering equipment and its installation refunded to the original applicant, if such applicant so requests within ten years of installation and the total revenue from the service within the two years immediately prior to the request is equal to or greater than ten times the cost of the complete installation.

Rule 5.

Fire Service

Service for automatic fire sprinkler systems or for fire protection of any kind will be classed as fire service provided such service is required by or conforms to the regulations of the Fire Department or the Underwriters having jurisdiction and provided that if water is used for any purpose other than extinguishing accidental fires or for testing the system, the general use schedule of rates for service charge, water delivered and minimum billing shall apply and the Department shall have the right to place a standard meter or meters on the service, if not already installed, at the expense of the customer or to disconnect the entire water supply for the premises.

The installation charge shall include the costs of the metering equipment and its installation.

Rule 5A.

Combination Fire Service

Service for automatic fire sprinkler systems or for fire protection of any kind, when combined with a standard service, will be classed as a combination fire service subject to be the following provisions:

- (1) Such service is required by or conforms to the regulations of the Fire Department or the underwriters having jurisdiction.
- (2) The fire service size shall be determined by the San Francisco Fire Department or other proper authority having fire jurisdiction.
- (3) The domestic service shall be sized in accordance with Department Rules based on demand and/or fixture unit count for the building or premises involved.
- (4) The combined fire and domestic service shall not be sized greater than two (meter) sizes larger than that required to satisfy domestic requirements.
- (5) Maximum size of a combined service shall be 2 inch.

(Rule as adopted, February 10, 1970, Resolution No. 70-0081).

Rule 6.

Service Outside San Francisco

It is the policy of the Department to give preference in the sale of water outside the limits of the City and County of San Francisco to municipalities, water districts and communities for distribution under their own operation and control. The Department will, however, consider applications for service from individuals or others located outside of the areas served by such local distributing systems and may within its discretion provide such service until such time as the premises supplied are included within the area served by an independent system, supplied by the Water Department, which independent system desires and is able to provide such service or until such time as it is no longer feasible for the Department to continue to provide such service.

Connections to the Department's transmission mains will be made only at points to be chosen by it. Non-standard service will not be provided from transmission mains except to meet an urgent requirement concerning the public welfare.

Fire service connections may be allowed provided that domestic service is also supplied by the Department to the same premises. Applications for water service for industrial and other purposes will be considered and may be accepted if not deemed detrimental to existing services or inimical to the interests and operations of the Department and such water service may be furnished under agreement fixing terms and conditions for such service.

In the event it becomes necessary for the Department to abandon a transmission main, the Department reserves the right to discontinue the existing services from such transmission main; and will thereafter supply service, if requested, from the most convenient then existing transmission main.

Wholesale service shall be by application and shall be restricted to the supply of water for distribution by the applicant for domestic and other municipal purposes of the applicant in the service area defined in the application. The application shall be a term agreement in which shall be set forth the area to be supplied, the size of the service, whether the service is for immediate and permanent use or for intermittent use.

Water service conducted pursuant to these Rules and Regulations shall be in accordance with that certain federal statute designated as the "Raker Act".

No new service or services for wholesale water will be installed, nor will any present service or services be increased in capacity; nor will the Department supply water for wholesale to any present service or services to supply any additional area than the area supplied by such present services as of January 1, 1960, unless written application as provided in this section has been properly signed, received and approved by the Department.

Unless written application as provided in this section has been signed, received and approved by the Department from the present wholesale customers the Department will notify each such customer for wholesale water that, effective January 1, 1960, the Department will not guarantee to supply water in excess of the safe plant capacity existing as of January 1, 1960.

All supply and distribution lines leading from the Department's meters shall be installed and maintained by the applicant at his expense and the applicant will be held responsible for payment for all water delivered whether beneficially used or lost through leakage.

Rule 7.

Basement Under Sidewalk

Where the basement of the property to be served extends under the sidewalk area, the owner or applicant shall provide, at a point approved by the Department, the necessary opening in the retaining wall to extend the service pipe, and the meter shall be installed on the service just inside such wall in a position convenient for reading or for making any repairs or changes necessary. Neither the Department nor its officers, employees or agents shall incur any liability of any kind whatever by reason of the installation or presence of Department's meter, service pipe or any other facility or facilities of Department in or near the said property to be served.

The owner, tenant or customer shall provide and maintain easy access to the meter for reading or any other purpose the Department may deem necessary. Failure to remove any obstruction within ten (10) days after notification by the Department, will be sufficient cause for removal of the meter, at the expense of the applicant, to a more accessible location or for discontinuance of service.

Rule 8.

Change of Location or Size of Service or Meter

Applicants desiring a change in the location, arrangement or size of the service or meter must bear all cost of such change.

(Rule as adopted, April 13, 1971. Resolution No. 71-0130).

Rule 9.

Protection of Public Water Supply

Services, meters and house piping shall conform to the rules of the Water Department, to the Building, Plumbing and Fire Ordinances and to any legal requirements of the State Department of Public Health or other authority having jurisdiction.

Where an auxiliary water supply exists in any building or premises connected to the system of the Department, approved backflow protection must be provided unless the auxiliary water supply is acceptable as an additional source of water by the Department. This requirement shall include the handling of process waters and waters originating from the Department which have been or may be subject to deterioration in sanitary quality. Backflow prevention devices shall be installed where internal cross connections exist unless such cross connections are abated to the satisfaction of the Department.

The Department will not supply water to any building or premises having an auxiliary water supply or where cross connections exist unless approval for such service is first obtained from the Department.

Approval may be granted under the following conditions:

(a) Premises With Auxiliary Water Supply

Where approved backflow prevention devices are installed and maintained by the customer to the satisfaction of the Department.

(b) Premises With Cross Connection

Where approved backflow prevention devices are installed and maintained by the customer to the satisfaction of the Department or where approved air-gap separation has been provided

(c) Sewage Treatment Plants or Sewage Pumping Stations

Where the Department's service line is protected by approved air-gap separation before the first fixture and where the piping between the service cock and the receiving tank is entirely visible.

The Department may require an affidavit at any time to the effect that no cross connection or auxiliary water supply exists or stating the size and location if any do exist.

Failure to comply with any requirements relative to the protection of public water supplies will be sufficient reason for immediate discontinuance of any service until such time as it is determined that the requirements of the Department have been met.

Rule 10.

Control Valves, Ground Wires, Etc.

The owner or accepted applicant of the property to be or being supplied shall, if not already provided, install a gate type control valve on the house pipe between the Department's meter and the first fixture outlet.

Neither the Department nor its officers, employees or agents shall incur any liability of any kind whatever by reason of water running from open or faulty fixtures or from broken or damaged house pipes, i.e. for pipes beyond the Department's meter.

No one may attach any ground wire or wires to any plumbing which is or may be connected to any service pipe or main belonging to the Department unless such plumbing is adequately connected to an effective driven ground installation on the premises. Neither the Department nor its officers, employees or agents shall incur any liability of any kind whatever by reason of the use of any facility for grounding purposes which is or may be connected to the system of the Department.

The owner or accepted applicant will be held liable for any damage to the property of the Department which may be willfully caused by him or result from carelessness or negligence on his part or on the part of any person or entity acting for or on behalf of such owner or accepted applicant and in particular, without limiting the foregoing, for damage occasioned by operating the Department's stop cock in lieu of a control valve, for damage due to ground wire attachments and for damage to the meter caused by hot water or steam from the premises. In the event payment for such damage is not promptly made, the Department reserves the right to disconnect service to the premises until all claims are satisfied.

Rule 11.

Mains and/or Services in Impaired Sub-Surface Areas

Where mains and/or services are installed in streets where new installations or maintenance work will be impaired because of Redevelopment, Subways or similar public projects, the Department's policy is to remove such mains and/or services wherever feasible and to make no new installations in such streets.

Properties presently being served from such streets and abutting another street in which the Department has distribution mains will, if any changes in present service or any new service are required, be served only from such other street and the owner, agent, lessee or applicant shall extend his existing pipe to such other street to meet the new service location.

Where property presently abuts a side street, and is later subdivided so that any parcel will no longer have access to the side street, the owner, agent or lessee shall make the necessary arrangements to insure that such parcel or parcels shall be served from the appropriate side street.

If an owner, agent or lessee of property is unwilling to so extend a connection to such side street, the Department may refuse service to such property upon a determination that such service would be detrimental to existing services or detrimental to the interests of the Department or of the general public.

(Rule as adopted August 16, 1966. Resolution No. 66-0664).

SECTION B – EXTENSION OF MAINS

(Section Revised January 16, 2001, effective February 13, 2001, Resolution No. 01-0035).

In the context of this Section B, the term “extension” shall mean the installation of a new water main to an area that has no existing main referred to as “new extension”, or to the upgrade to an existing main referred to as “extension upgrade” to meet new demand of the applicant. Extension upgrade includes the changeover of service lines from the existing main to the new main. Rules established for “extension” without any specific “new” or “upgrade” shall apply for both cases.

The term “facility” shall mean any new installation besides the main extensions. Typical facilities include pump stations, hydro-pneumatic stations, reservoirs, water tanks, and pressure regulator stations.

Rule 1.

Installation

The Department will determine if a main or mains extension or modifications to existing Department facilities or new facilities are required based on the applicant’s water demands.

The Department will specify characteristics of the extension such as size, location of the mains and any facilities that are required or approve extension or facility characteristics proposed by the applicant.

The Department will be responsible for the design of the extension or facility or approve the applicant’s design.

The Department will do the installation, hire a contractor or approve a contractor hired by the applicant to do it.

No extension or facilities shall be installed until such time as roadways are completed to sub-grade and construction of curbs and gutters are completed.

Installation by a contractor shall be inspected either by SFPUC inspectors or by inspectors selected or approved by the Department.

Rule 2.

Ownership Transfer

a) Installations in streets already accepted by the City Board of Supervisors (BOS)

- Installation done by the Department

The ownership of the installation is with the Department

- Installation done by others

The ownership of the installation is transferred to the Department on the day the installation is put into service or the day the applicant provides to the Department a 5-year warranty as to workmanship, whichever is later. The 5-year workmanship warranty shall be in the form of a warranty bond or other financial instrument acceptable to the Department.

b) Installation in streets not accepted by BOS or in private properties.

Ownership of the installation remains with the applicant. The Department will install appurtenances (valves, meters) in the system that delineate the ownership boundary change.

The Department may assume the ownership of the installation if certain conditions are met. Conditions include but are not limited to:

- Pipeline right-of-way, facility access roads, and facility sites, as determined by the Department, have been provided to the Department.
- Design plans and specifications have been approved by the Department prior to construction.
- The installation met the Department standards. The Department may make a field investigation to insure the conformance to Department standards and require modifications/repairs as necessary before considering the ownership transfer.
- The inspection has been performed by SFPUC inspector or inspector approved by the Department.
- As-built drawings, acceptable to the Department, have been provided to the Department.
- A 5-year warranty as to workmanship, from the construction completion date of the installation or repairs/modifications work has been provided to the Department.

If the Department satisfies all its requirements and accepts the ownership of the installation, the Department will issue a Certificate of Ownership Change. The effective date of the ownership transfer will be the date on the certificate.

Rule 3.

Financial Responsibilities

Unless otherwise indicated, the applicant is responsible for all costs of the installations required to meet new demands and costs related to the ownership transfer.

Costs of the installations include, but are not limited to, costs for project management planning, design, materials, equipment, installation, inspection, system disinfection, and land acquisition (as applicable).

For the service or work to be performed by the Department, the applicant shall make a deposit equal to the estimated cost, as determined by the Department. At the completion of the installation, the Department will determine the actual costs. Refund or additional charges shall be made to or requested from the applicant should the estimated costs differ from the actual costs.

If any of the costs have been paid to a party besides the Department, at the completion of the installation, the applicant shall submit to the Department these costs incurred by him/her for each extension and each facility. The applicant shall provide all supporting documents to the Department for these costs. The Department will review the expenditures and determine the reasonable costs that will be applied for future refunds, if any. If the applicant fails to submit the costs to the Department within 60 calendar days after the day when the installation is put into service, the Department will unilaterally determine the reasonable costs.

Where the Department, in the anticipation of future development, specifies an extension system that is beyond and above the need of the applicant, the applicant is only responsible for the system that satisfies existing customers' and the applicant's demands.

The Department will, at its own expense and without deposit, install the first 150 feet and street crossings of a new extension required to provide exclusively standard service. If the new extension for standard service is longer than 150 feet, the applicant is only responsible for the portion of the extension in excess of the first 150 feet and street crossings. For a new extension required for fire or other services (besides standard service), or an extension upgrade for any service, the applicant is responsible for the entire cost of the extension.

Rule 4.

Cost Sharing by New Applicants

a) Cost Sharing Requirements

New applicants, who need the service from an extension or a facility, shall be required at the time of application for service to pay through the Department their shares of the installation cost paid by the previous applicant(s), if the dates of the new applications are within 10 years of the date when the extension or the facility is put into service. The Department will determine the costs as determined hereinafter. The Department will make the request to the new applicants, collect monies from them and pay to previous applicant(s).

The Department will make refund payments to the previous applicant(s) who actually paid for the installation or part of it. The right of collecting refunds is not transferable. Previous applicant(s) who are entitled to refunds shall notify the Department of any address change. If the Department cannot contact an applicant to send a refund, the Department will retain the fund.

No service hook-up for new applicants shall be made before the sharing costs are deposited to the Department.

No cost sharing is required for applications submitting after the 10-year period.

The Department will retain 5% of the refund monies to administer the refund program.

b) Cost Sharing for Main Extensions

The cost of a main extension will be shared on a proportional basis among all customers connecting to the main extension. The share of cost assigned to each new connection will be calculated using information available from Customer Service Bureau records and the following formula:

$$S = \frac{M \times L}{T} \times C$$

Where:

S: Cost share of the connection.

M: Meter size in inches

L: Distance in feet from the beginning of the extension to the point of the new connection.

C: Total cost of the extension paid by the original (first) applicant.

T: The sum of $M \times L$ terms of all connections to the extension. Changeover, connections for extension upgrade are excluded.

Every time there is an application for a new connection to the extension, term "T" will increase and the cost share of all previous connections will be reduced. Applicants of previous connections will receive a refund, which is the difference of their previous cost share and the new cost share.

In case of an extension upgrade, all existing services that need to be connected to the new main (changeover) shall not be considered as new connections and consequently will not be included in the cost sharing calculation.

The applicant shall not receive any refund if he/she asks for disconnection of a service that was part of the cost sharing calculation.

An applicant, who needs an extension from an existing extension, shall share the cost for the entire length of the existing extension (the total length of the extension will be used to calculate his/her share). Besides, he/she will be responsible for the entire cost of the new extension.

c) Cost Sharing for Facility

- Facility can accommodate additional demand of the new applicant

If the Department determines that the facility can accommodate the new applicant's demand, the cost sharing is proportional to the ratio of the new demand over the total capacity of the facility. The ratio shall be determined by the Department.

The cost share S of the new applicant will be:

S: Cost share of facility

d: New applicant demand in gallons per minute (gpm)

$$S = \frac{d}{D} \times C$$

D Total capacity of facility in gallons per minute (gpm)

C: Total cost of the facility excluding main extension paid by the original applicant

- Facility cannot accommodate additional demand of the new applicant

If the Department determines that the facility cannot accommodate the new applicant's demand and it needs to be upgraded to satisfy new demand; the cost sharing shall be through an agreement between the original and new applicants with the approval of the Department. If no agreement can be reached within 90 calendar days from the date of the new application, the Department shall unilaterally determine the cost sharing based on modifications to the facility that best suit the Department's operation. Besides the cost share for the existing facility, the new applicant shall be responsible for all modifications as determined by the Department.

d) Cost Sharing Paid to the Department

The Department may also decide to install an additional extension or oversize an extension or a facility needed by an applicant to satisfy anticipated future demands. The Department will be responsible for what is above and beyond the applicant demand. However, any new applicant who needs the service of the additional or upgraded extension or facility will be requested to share the cost paid by the Department in the same way as outlined in b) and c) above.

Under no circumstances shall customers be requested to pay any cost share for connecting to a new main that has been installed as part of the Department's systematic Ductile Iron Main Replacement Program.

SECTION C – APPLICATION FOR WATER SUPPLY AND RESPONSIBILITY OF APPLICANTS

Rule 1.

Application for Supply

An applicant for water supply shall furnish such information as the Department requires to establish the account and shall establish credit as provided in Rule 2 of this Section. When a guarantee deposit is required the application shall be in writing. The responsible applicant, person or firm being supplied will be held liable for payment for all water delivered from the time service begins until the Department is notified in writing and discontinues service pursuant to such notification.

Where changes have been made in the house piping which affect the supply area as shown on the records of the Department, and the Department has not been afforded an opportunity to inspect such changes, the accepted applicant will also be held liable for payment of the bills as issued.

If water is desired through fire hydrants, permit must first be obtained from the Fire Department having jurisdiction. The permit shall then be filed with the Department together with the application for water supply.

All services of the Department are supplied with the understanding that the applicant agrees to abide by the Rules and Regulations and the Rate Schedules of the Department as they now exist or as they hereafter may be amended.

Rule 2.

Establishing and Maintaining Credit

Customers are required to establish and maintain credit to the satisfaction of the Department. A regulation guarantee deposit may be required before granting, continuing, or re-establishing service.

When a guarantee deposit is required for a metered water supply, such deposit shall be approximately twice the estimated monthly water and sewer service charge bill but in no case shall it be less than \$50.00. The deposit for temporary unmetered usage or for special shipping service may be equal to the estimated maximum bills for service to be rendered.

(Paragraph as amended May 25, 1999. Resolution No. 99-0138)

When service has been given with the understanding that a guarantee deposit is to be made and such deposit is not made within ten (10) days, the Department may discontinue service.

At time of application for service, the Department will require a form of verifiable identification from the customer. Failure to provide such identification will result in not providing water service to the applicant.

(Paragraph as adopted May 25, 1999. Resolution No. 99-0138)

If an applicant has failed to pay the amount billed for all services rendered, the Department may discontinue or refuse to furnish service until the outstanding bills are paid and may apply any deposit to liquidate the bills. The Department may then require that the deposit be restored or, if none, may require that a regulation guarantee deposit be made before service will be granted, continued or re-established.

A guarantee deposit will be required in the amount of the estimated replacement cost of the metering equipment for portable meters issued for the drawing of Department water from fire hydrants.

(Rule as adopted, April 13, 1971. Resolution No. 71-0130).

Rule 3.

Return of Deposit

A guarantee deposit shall be returned to the depositor at the expiration of twelve months provided credit has been maintained to the satisfaction of the Department. The Department may extend the twelve – month period for holding a guarantee deposit to twenty – four months if the customer’s payment record so warrants. Refund of a deposit held beyond the twelve-month period will be made on application therefore

provided that credit has been maintained to the satisfaction of the Department. Upon closing an account the balance of any deposit remaining after settlement of the closing bill will be returned promptly to the depositor. Interest will be paid on guarantee deposits based on recommendations from time to time from the Public Utilities Commission's Bureau of Finance.

(Rule as amended May 25, 1999. Resolution No. 99-0138)

Rule 4.

Charge for Turning On/Shutting Off Water Supply

A service turn-on or shut-off during normal business hours (eight a.m. to four-thirty p.m. daily except Saturday, Sunday and holidays) will be assessed a service charge of \$34.00. A shut-off or turn-on at times other than normal business hours will be assessed a charge of \$50.00 (Schedule W-44).

Rule 5.

Water Used Without Regulation Application

A person or firm taking possession of premises and using water without having made application to the Department for service, shall be liable for the charges from the date of the last recorded meter reading. If such use has not been metered the Department will install a meter and may render a bill based on the use of water as estimated by the Department and for as long as the consumer has been occupying or in possession of the premises without paying bills.

If proper application is not made upon notification by the Department to do so and if accumulated bills for service are not paid on presentation, service will be discontinued without further notice.

SECTION D – METER READING, BILLING AND COLLECTION

Rule 1.

Billing Periods

Under ordinary conditions meters will be read either monthly or bi-monthly as determined by the Department on approximately the same day of the month and bills will be issued showing the period covered by the meter readings, the quantity of water delivered and the total charge for the service rendered. Bills will also be rendered upon termination of service.

Service periods up to 40 days will be considered as one month and those up to 70 days will be considered as two months when computing charges.

Rule 2.

Billing for Two or More Meters

For the purpose of making charges, all meters will be billed separately and the readings will not be combined except that where the Department shall, for operating necessity, install two or more meters in place of one meter, then the readings of such meters will be combined for billing purposes.

Where the Department, for operating necessity, decides to supply a customer taking water for wholesale through more than one connection at different points on the same transmission main instead of at one point, the readings of the meters at the several connections may be combined for billing purposes. Such combinations will not be made unless the water is for use within the limits of a single municipality or well-defined community and the Department's system is the sole source of supply, and will be limited to three in number each not less than four inches in size.

Rule 3.

Size of Meter for Billing

The scheduled rate for service charge based on the size of the meter shall apply to disc or other displacement type meters, and to compound meters. Where current, velocity or magnetic meters are installed, the service charge shall be based on the size of compound meter or meters of equivalent delivery capacity.

Rule 4.

Presentation and Payment of Bills

Unless the applicant specifies otherwise, bills will be mailed to the premises.

Bills are due and payable on presentation, i.e., when mailed or upon delivery in any manner and become delinquent fifteen days thereafter. Service may be discontinued for non-payment of a delinquent bill or for any other infraction of the rules.

Rule 5.

Proper Charges – Time Limit

Any bill for water supplied or service rendered will be considered a proper charge unless protest is made to the Department within fifteen (15) days after presentation.

In case of dispute as to payment of a bill, the customer will be required to present the receipted bill, cancelled check or other evidence of payment.

The Department will, upon request of the customer or for other reason, make an inspection of the premises on account of apparently excessive bills. After the Department has made a complete inspection, no further inspection will be made for a period of six (6) months provided, however, the Department may order an inspection at any time if conditions warrant.

Rule 6.

Allowances

The customer has sole control of the water delivered beyond the Department's meter and the Department is not responsible for maintenance and repairs of the pipes and fixtures beyond the meter. In order to encourage prompt repairs of leaking pipes or fixtures the Department may, under certain conditions, grant allowances for apparently excessive bills resulting from leakage beyond the meter. All risk of loss beyond the point of delivery shall be borne by the customer, except as otherwise provided herein.

- a) Allowance may be granted only when claim has been received as provided in Rule 5 of this Section and evidence clearly shows that the apparently excessive bill is due to leaking pipes or fixtures and not wasteful use and then only when repairs have been promptly made and reported to the Department. The allowance, if granted, will be for not more than two billing periods including that in which the claim was made.

- b) Allowance ordinarily may be granted on the basis of one-half of the excess delivery due to leakage but in the case of concealed leaks in underground or unexposed pipes, full excess may be allowed.
- c) Outside San Francisco no allowance will be made on account of leakage except when in the judgment of the Department exceptional conditions justify allowance and then only for concealed leaks in underground or unexposed pipes. In that event allowance may be granted based on from fifty to one hundred percent of the excess delivery. No allowance shall apply to customers taking water for wholesale.

The Department shall be the sole judge in determining the excess delivery due to leakage.

(Rule 6 as amended April 8, 1997. Resolution No. 97-0090)

Rule 7.

Meter tests

If the customer questions the accuracy of a meter the Department will, upon written request, test the meter. The customer should be present to witness such meter test.

If the customer requests more than one meter test in any twelve month period a fee of Five Dollars (\$5.00) will be required for each such additional test.

If the meter is found to register more than two percent fast the testing fee, if deposited, will be returned together with any overcharge based on correct meter readings. Such overcharge may be allowed for the twelve months next preceding the test or as much of the twelve months as the customer had been paying bills on the fast meter.

If the meter registers within the limit of error specified above, the testing fee, if deposited, will be applied by the Department to partially offset the costs of making the test.

Rule 8.

Non-Registering Meters

If a meter fails to register or to properly indicate the flow of water, a bill will be rendered on the basis of the average consumption of three preceding billing periods during which the meter was presumed to be functioning properly.

Bills rendered under the provisions of this rule will be subject to adjustment to give consideration to volume of business, seasonal demand, subsequent reading of a new meter, or other factors which may aid in making a proper charge.

SECTION E – GENERAL

Rule 1.

Compliance With Emergencies

In order to comply with any laws of the United States, the State of California or the City and County of San Francisco with respect to any National, State or Local Emergency and any executive and administrative proclamations and orders made thereunder, each rule or regulation of the Department affected by such emergency shall be suspended or modified to the extent necessary to permit the Department to comply with any such laws, proclamations and orders during the period they are in effect.

Rule 2.

Application of San Francisco Rates

Where the Rate Schedules provide different rates for water service “within” and “outside” the limits of the City and County of San Francisco, rates applicable within the limits of San Francisco shall apply to all water service to premises served through a connection to the Department’s mains which, together with the meter or meters, is located within the boundaries of the City and County of San Francisco.

All other services shall be considered outside services.

Rule 3.

Improvement of Service

The Department may, as a part of its routine operations, enlarge, extend or replace its mains, services or other facilities and perform necessary work incidental thereto to whenever the Department head shall determine that such work is necessary.

Rule 4.

Pressure and Supply

The Department does not guarantee pressure or continuous supply nor will it accept responsibility at any time for the maintenance of pressure on its lines nor for increases or decreases in pressure. It reserves the right at any and all times, without notice, to shut off water for the purpose of making repairs, extensions, alterations or improvements and to increase or reduce pressure as a part of its operations. Neither the Department nor its officers, employees or agents shall incur any liability of any kind whatever by reason of the cessation in whole or in part of water pressure or water supply. Customers depending upon a continuous and uninterrupted supply shall provide emergency storage, oversize piping, pumps, tanks, pressure regulators, check valves or other means for a continuous or adequate supply or to safeguard their facilities.

Rule 5.

Tampering With Department Property

No one except an employee or representative of the Department shall at any time in any manner operate the main cocks, gates or valves of the Department's system, nor connect or disconnect the service pipe, nor interfere with meters or their connections, street mains or other property of the Department. Where the stop cock is operated in lieu of a control valve on the house pipe the Department will not be responsible for any damage resulting from the malfunction or breaking of the service pipe, stop cock, meter, house pipe or any connections.

The Department reserves the right to recover for damage to any of its facilities caused by the acts of others and will not be responsible for water damage occasioned by such acts of others.

Rule 6.

Admission of Department's Employees

Employees or representatives of the Department shall be admitted during reasonable hours to customers' premises to perform the various functions required in the performance of their regular duties. Those engaged in such work will be furnished with badges or other means of identification.

Rule 7.

Abatement of Noises.

Where it has been determined that noises or other disturbances are originating from a customer's premises caused by apparatus attached to the water pipes or fixtures and are resulting in annoyance to other water users or may damage the Department's facilities, the Department may issue a notice to such customer or to the owner or agent of the property requesting removal or correction of the cause of complaint. Failure to properly abate the nuisance will be sufficient reason for discontinuing water service.

Rule 8.

Removal and Relocation of Facilities

Property owners or others desiring the removal or relocation of fire hydrants, water mains, services, meters or other facilities of the Department must bear all costs of such removal or relocation.

In the case of any work involving a fire hydrant, the applicant will be required to present a written permit authorizing such work from the Fire Department having jurisdiction.

Rule 9.

Determination of Cost

In determining the actual cost of any work to be done by the Department at the expense of others, such cost shall include labor, material, engineering, inspection, contractual service, administrative service, and any other proper element of cost. Ten percent shall be added to all other costs for administrative services, except where work is performed for this Department by others, under contract, in which case five percent shall be added for administrative services.

(Paragraph as amended August 16, 1966. Resolution No. 66-0666)

The applicant shall make written request of the Department for the estimated cost of the proposed work following which such estimated cost, or the charge if listed in these rules or in the rate schedules, must be deposited before the Department can proceed. If the work has been done on an estimated cost basis, any difference between the amount deposited and the actual cost shall be adjusted by the Department or the depositor as required.

The requirement for a deposit shall not apply to work to be performed for a governmental agency or a public utility where satisfactory written authorization has been received covering agreement to pay for such work.

Any fees, deposits or payments imposed by and paid to the Department for installation charges, estimated costs, deposits or penalties may be refunded after adjustment for service and deduction for expenses of the Department, if any, as determined by the Department as hereinafter set forth: Provided, that such payment was made by reason of:

1. Duplicate payment.
2. Payment made in excess of actual amount due.
3. Payment erroneously imposed or collected by reason of error.
4. Payment for installation where no installation has been made.
5. In the case of deposits for service connection charges and where no work or partial work has been performed, and where the applicant notifies the Department of the abandonment of its application for service connection in whole or in part, or where such application has been canceled or denied by the Department.

The provisions of this rule relating to the right of refund of money shall apply to all claims for refunds of any kind heretofore presented, approved and transmitted to the Controller, on or subsequent to November 1, 1963; and the payment of all such claims made prior to November 1, 1963 is hereby ratified and approved.

(Paragraphs as adopted August 16, 1966. Resolution No. 66-0667)

Rule 10.

Damage Claims

Claims for damage which may be caused by, or result from, the Department's operations should be made pursuant to Section 87 of the Charter of the City and County of San Francisco, if said section is applicable, or pursuant to applicable provisions of the statutes of the State of California. In addition, prompt notice of any damage caused by or resulting from the Department's operations should be given by telephoning the City Attorney's Office, Claims Division at (415) 554-3900 to obtain a claim form and instructions. Evidence of damage involved in such claims shall not be destroyed before the Department has been given opportunity to inspect such damage.

Rule 11.

Applicability of Charges for Water Use Due to Noncompliance with Conservation Measures

All retail paying and nonpaying customers within and outside of the City and County of San Francisco, including but not limited to Federal, state and local governments, shall be subject to any charges for water resulting from noncompliance with various conservation measures imposed under the rate-setting authority of the Public Utilities Commission. These conservation measures include, but are not limited to the following:

- (1) retrofitting of showerheads;
- (2) installation of water-conserving plumbing fixtures such as aerators with restrictors on all faucets and permanent devices to reduce the amount of water used per flush by toilets using more than 3.5 gallons per flush;
- (3) excess use charges in the event of mandatory rationing; and
- (4) such other water conservation measures as may in the future be adopted by the Public Utilities Commission.

(Paragraph as adopted July 9, 1996. Resolution No. 96-0137)

Rule 12.**Water Use Restrictions**

The customer will be in violation of the Department's Water Use Restrictions, if the customer is found to be using water excessively in the following ways:

- (a) Water waste, including but not limited to, any flooding or runoff into the street, sidewalk or gutter;
- (b) Using hoses for any purpose without a positive shut-off valve;
- (c) Serving water at a restaurant, café or food counter without waiting for a request by a customer or customers;
- (d) Use of potable water for consolidation of backfill, dust control or other non-essential construction purposes if groundwater or reclaimed water is available and approved by the Department of Health;
- (e) Use of single-pass cooling systems, fountains and commercial car washes.

The first violation of any water use restriction by any customer will result in a written warning. The warning will be given to the customer or attached to the customer's door. If the customer violates any water use restrictions ten or more days after the first violation, the customer will receive a written warning attached to the customer's door and a letter specifying the violation and the possible action of a repeat violation will be sent to the customer at the account's billing address. If the customer violates any water use restrictions ten or more days after the second violation, the customer may choose to attend a Department-approved seminar on water conservation measures or in accordance with all applicable laws and legal restrictions, have a flow restricting device installed in their service line. If the customer is an owner or manager of a business, the manager or owner of the business must be the representative attending the seminar. If the customer is a municipal account, a foreman or a supervisor must be the representative attending a seminar.

If the customer violates any water use restrictions ten or more days after the third violation or if the violation results in a public safety hazard, the Department may elect to terminate the water service. The customer shall bear the cost of the enforcement action and any costs associated with reconnecting the water service. Exceptions to water use restrictions in San Francisco may be made for the protection of public health or safety.

(Paragraph as adopted August 27, 1996. Resolution No. 96-0160)

Rule 13.

Interpretation of Rules and Regulations

In the event of any question as to interpretation or application of any of these Rules and Regulations, the Department shall make such interpretation or application. In event of appeal, the ruling of the Public Utilities Commission shall be final.

SECTION F - WATER EFFICIENT IRRIGATION RULES WILL:

Purpose

- a) Promote the values and benefits of landscapes while recognizing the need to invest water and other resources as efficiently as possible;
- b) Establish a structure for planning, designing, installing, maintaining, and managing water efficient landscapes in new construction and rehabilitated projects;
- c) Establish provisions for water management practices and water waste prevention for existing landscapes;
- d) Promote using water efficiently without waste by setting a Maximum Applied Water Allowance, using state mandated formulas and accounting for local climatic conditions, that will serve as an upper limit for water use by irrigated landscapes;
- e) Comply with the requirements of Article 10.8 of the California Government Code, enacted by the State as the Water Conservation in Landscaping Act; and
- f) Delineate the conditions under which the San Francisco Public Utilities Commission provides water for landscape irrigation uses.

Rule 1.

Applicability

- a) Section F shall apply to all of the following projects and activities.
 - i. Tier 1: All public agency, residential, and commercial new construction and rehabilitated landscape projects with a modified landscape area equal to or greater than 1,000 square feet and less than 2,500 square feet.
 - ii. Tier 2: All public agency, residential and commercial new construction and rehabilitated landscape projects with a modified landscape area equal to or greater than 2,500 square feet.
 - iii. The irrigation and maintenance of any landscape irrigation system.

- b) Section F does not apply to:
- i. Registered local, state or federal historical sites where the landscape is maintained as part of the historical integrity of the site;
 - ii. Ecological restoration projects that do not require a permanent irrigation system; and
 - iii. Plant collections or animal habitat areas, as part of botanical gardens, zoological gardens, and arboretums open to the public.
- c) The General Manager may waive some or all of the requirements of Section F for landscape rehabilitation projects proposed by San Francisco Public Utilities Commission's retail water customers located outside the boundaries of the City and County of San Francisco, if after consultation with the local agency having jurisdiction pursuant to California Government Code sections 65591, et. seq., the General Manager determines that the retail water customer must comply with the local agency's ordinance requirements. If the General Manager determines that the retail water customer is not required to comply with the local agency's ordinance requirements, the retail water customer must comply with Section F of the San Francisco Public Utilities Commission Rules for Water Service Customers.
- d) The General Manager may waive some or all of the requirements of Section F if, after a site inspection, the General Manager determines that compliance is not feasible due to one or more of the following conditions.
- i. Wet soil conditions stemming from proximity to naturally occurring water features such as a high water table, springs, ponds, lakes, creeks, and wetlands.
 - ii. Substantial health or safety related risk of injury or harm to property owner, users or workers.
 - iii. Disproportionately high costs for achieving minor or minimal water savings.
- e) A process for document submissions and approvals pursuant to Section F will be developed by the General Manager in conjunction with the Department of Building Inspection, with the purpose of administrative efficiency and effective customer service.

Rule 2.**Definitions**

The terms used in this section have the following meanings.

- a) **Applied water:** the portion of water supplied by the irrigation system to the landscape.
- b) **Automatic irrigation controller:** an automatic timing device used to remotely control valves that operate an irrigation system. Automatic irrigation controllers schedule irrigation events using either evapotranspiration (weather-based) or soil moisture data.
- c) **Backflow prevention device:** a safety device used to prevent pollution or contamination of the water supply due to the reverse flow of water from the irrigation system.
- d) **Certificate of Landscape Completion:** the document required under Rule 13.
- e) **Certified irrigation designer:** a person certified to design irrigation systems by an accredited academic institution, a professional trade organization, or other program such as the US Environmental Protection Agency's Water Sense Partners irrigation designer certification program and the Irrigation Association's Certified Irrigation Designer program.
- f) **Certified landscape irrigation auditor:** a person certified to perform landscape irrigation audits by an accredited academic institution, a professional trade organization, or other program such as the US Environmental Protection Agency's WaterSense irrigation auditor certification program and the Irrigation Association's Certified Landscape Irrigation Auditor program.
- g) **Check valve or anti-drain valve:** a valve located under a bubbler and sprinkler head, or other location in the irrigation system, to hold water in the system to prevent low head drainage from sprinkler heads when the sprinkler is off.
- h) **Common interest developments:** community apartment projects, condominium projects, planned developments, and stock cooperatives per California Civil Code Section 1351.
- i) **Conversion factor of 0.62:** the number that converts acre-inches per year to gallons per square foot per year.
- j) **Drip irrigation:** any non-spray low volume irrigation system utilizing emission devices with a flow rate measured in gallons per hour.

- k) **Ecological restoration project:** a project where the site is intentionally altered to establish a defined, indigenous, historic ecosystem.
- l) **Emitter:** a drip irrigation emission device that delivers water slowly from the system to the soil.
- m) **Established landscape:** the point at which plants in the landscape have developed significant root growth into the soil. Typically, most plants are established after 1 or 2 years of growth while tree establishment is 3 to 5 years.
- n) **Estimated Total Water Use (ETWU):** the total water used for the landscape.
- o) **ET adjustment factor (ETAF):** a factor of 0.7, that, when applied to reference evapotranspiration, adjusts for plant factors and irrigation efficiency, two major influences upon the amount of water that needs to be applied to the landscape. A combined plant mix with a site-wide average of 0.5 is the basis of the plant factor portion of this calculation. For purposes of the ETAF, the average irrigation efficiency is 0.71. Therefore, the ET Adjustment Factor is $(0.7) = (0.5/0.71)$. ETAF for a Special Landscape Area shall not exceed 1.0. ETAF for existing non-rehabilitated landscapes is 0.8.
- p) **ETo or reference evapotranspiration:** a standard measurement of environmental parameters which affect the water use of plants. ETo is expressed in inches per day, month, or year and is an estimate of the evapotranspiration of a large field of four- to seven-inch tall, cool-season grass that is well watered. Reference evapotranspiration is used as the basis of determining the Maximum Applied Water Allowance so that regional differences in climate can be accommodated.
- q) **Evapotranspiration rate:** the quantity of water evaporated from adjacent soil and other surfaces and transpired by plants during a specified time.
- r) **Existing landscape area:** a landscape area of any size that has not been rehabilitated or constructed within the previous 12 months.
- s) **First construction document:** the first building permit issued for a project or, in the case of a site permit, the first building permit addendum issued or other document that authorizes construction of the project. "First construction document" shall not include permits or addenda for demolition, grading, shoring, pile driving, or site preparation work.
- t) **Flow rate:** the rate at which water flows through pipes, valves, and emission devices, measured in gallons per minute, gallons per hour, or cubic feet per second.

- u) **General Manager:** the General Manager of the Public Utilities Commission, or his or her designee.
- v) **Hardscape:** any durable material (pervious and non-pervious).
- w) **Hydrozone:** a portion of the landscaped area having plants with similar water needs. A hydrozone may be irrigated or non-irrigated.
- x) **Infiltration rate:** the rate of water entry into the soil expressed as a depth of water per unit of time (e.g., inches per hour).
- y) **Invasive plant species:** species of plants not historically found in California that spread outside cultivated areas and can damage environmental or economic resources. Invasive species may be regulated by county agricultural agencies as noxious species. "Noxious weeds" means any weed designated by the Weed Control Regulations in the Weed Control Act and identified on a Regional District noxious weed control list. Lists of invasive plants are maintained at the California Invasive Plant Inventory and USDA invasive and noxious weeds database.
- z) **Irrigation audit:** an in-depth evaluation of the performance of an irrigation system conducted by a Certified Landscape Irrigation Auditor. An irrigation audit includes, but is not limited to: inspection, system test with distribution uniformity or emission uniformity, precipitation rates, reporting deficiencies in the system, reporting overspray or runoff that causes overland flow, and preparation of an irrigation schedule. An irrigation audit may include suggested upgrades, current estimated water usage, and suggested system upgrades.
- aa) **Irrigation efficiency (IE):** the measurement of the amount of water beneficially used divided by the amount of water applied. Irrigation efficiency is derived from measurements and estimates of irrigation system characteristics and management practices. The minimum average irrigation efficiency for purposes of this ordinance is 0.71. Greater irrigation efficiency can be expected from well designed and maintained systems.
- bb) **Landscape Application:** the documents required under Rule 3 for Tier 1 compliance.
- cc) **Landscape architect:** a person who holds a license to practice landscape architecture in the state of California pursuant to California Business and Professions Code.

- dd) **Landscape area:** all the planting areas, turf areas, and water features in a landscape design plan subject to the Maximum Applied Water Allowance calculation, including any adjacent planted areas in the public right-of-way for which the property owner is responsible pursuant to the Section 400.1 or Section 805 of the Public Works Code. The landscape area does not include footprints of buildings or structures unless the footprints include planted areas such as living roofs. The landscape area also does not include sidewalks, driveways, parking lots, decks, patios, gravel or stone walks, other pervious or non-pervious hardscapes, and other non-irrigated areas designated for non-development such as open spaces and existing native vegetation.
- ee) **Landscape contractor:** a person licensed by the State of California to construct, maintain, repair, install, or subcontract the development of landscape systems.
- ff) **Landscape Documentation Deadline:** the date by which Tier 1 or Tier 2 documentation must be submitted for approval by the General Manager. This date shall be not more than 100 days after the issuance of the first construction document, or as determined by the General Manager in consultation with the Director of Department of Building Inspection.
- gg) **Landscape Documentation Package:** the documents required under Rule 8 for Tier 2 compliance.
- hh) **Landscape rehabilitation project or rehabilitated landscape:** includes any modifications to landscape areas over a 12-month period at a site that cumulatively exceeds 1,000 square feet. A landscape rehabilitation project or rehabilitated landscape does not include turf replacements on sports fields where the turf replaced provides a playing surface, routine weeding, brush removal where no new plant materials are installed, seasonal plantings, and areas dedicated solely to edible plants. A rehabilitated landscape does not include landscape areas where only the irrigation system is retrofitted for the use of recycled water and only plantings that restore areas disturbed by the recycled water retrofits are installed. Recycled water irrigation retrofit projects shall employ best management practices to prevent runoff, ponding and overspray as directed in their recycled water use permit and comply with all applicable local and state regulation.
- ii) **Lateral line:** the water delivery pipeline that supplies water to the emitters or sprinklers from the valve.
- jj) **Low volume irrigation:** the application of irrigation water at low pressure through a system of tubing or lateral lines and low-volume emitters such as drip, drip lines, and bubblers. Low volume irrigation systems are specifically designed to apply small volumes of water slowly at or near the root zone of plant.

- kk) **Low water use plants or climate appropriate plants:** plants, shrubs, groundcovers or tree species that meet at least one of the following conditions.
- i. The species has a water use ranking of “low” or “very low” in Region 1 (North-Central Coast) as established in the California Department of Water Resources 2000 publication “Water Use Classification of Landscape Species” or subsequent editions as it may be updated.
 - ii. The species has a water use ranking of “no water”, “little water,” or “little to moderate water” in the climate zone for the planting location as established in the Sunset Western Garden Book, Eighth Edition, published by Oxmoor House on February 1, 2007 or subsequent editions as it may be updated.
 - iii. The plantings are part of an engineered stormwater management feature approved by the General Manager pursuant to the San Francisco Stormwater Design Guidelines established by the Public Utilities Commission.
 - iv. The Department of Public Works, the Recreation and Park Department, or the General Manager has determined that the species, when watered for sufficient plant health and appearance, is low water use based on the agency’s experience with the species, and the agency has added the species to the Low Water Use and Climate Appropriate Plant List maintained by the General Manager.
 - v. The species appears on the San Francisco Street Tree Species List established by the Department of Public Works Bureau of Urban Forestry.
 - vi. The planting is part of a species test approved by the Department of Public Works or the Recreation and Park Department.
 - vii. The species has been permitted at the site by the Department Public Works or the General Manager based on wet soil conditions stemming from proximity to naturally occurring water features such as a high water table, springs, ponds, lakes, creeks, and wetlands.
- ll) **Maximum Applied Water Allowance (MAWA):** the amount of annual applied water established by the San Francisco Public Utilities Commission for a landscaped area, using state mandated formulas and accounting for local climatic conditions, that serves as an upper limit for lawful water use for irrigating landscaped areas. The MAWA is based upon the area’s reference evapotranspiration, the ET Adjustment Factor, and the size of the landscape area. The Estimated Total Water Use shall not exceed the Maximum Applied

Water Allowance. Special Landscape Areas, including recreation areas, areas permanently and solely dedicated to edible plants such as fruit and nut trees and vegetable gardens, and areas irrigated with gray water or harvested rainwater, are subject to the MAWA with an ETAF not to exceed 1.0.

- mm) **Mulch or mulching product:** any organic material such as leaves, bark, straw, compost, or inorganic mineral materials such as rocks, gravel, and decomposed granite left loose and applied to the soil surface for the beneficial purposes of reducing evaporation, suppressing weeds, moderating soil temperature, and preventing soil erosion.
- nn) **New construction:** a new building or structure with a landscape, or other new landscape, such as a park, playground, median strip, or greenbelt without an associated building or structure.
- oo) **New construction landscape project:** the total area of landscape in the project as defined in "landscape area," and the modified landscape area for a landscape rehabilitation project.
- pp) **Operating pressure:** the pressure at which the parts of an irrigation system are designed by the manufacturer to operate.
- qq) **Overhead sprinkler irrigation systems:** systems that deliver water through the air (e.g., spray heads and rotors).
- rr) **Overspray:** the irrigation water which is delivered beyond the landscape area.
- ss) **Permit:** an authorizing document issued by the General Manager or Department of Building Inspection.
- tt) **Pervious:** any surface or material that allows the passage of water through the material and into the underlying soil.
- uu) **Plant factor or plant water use factor:** a factor that, when multiplied by ETo, estimates the amount of water needed by plants. The plant factor range for low water use plants is 0 to 0.3, the plant factor range for moderate water use plants is 0.4 to 0.6, and the plant factor range for high water use plants is 0.7 to 1.0. Plant factors for any plant shall be as established in the Department of Water Resources 2000 publication "Water Use Classification of Landscape Species" or subsequent additions. Plants used in the landscape project that are not found in WUCOLS shall use the plant factor of a similar species included on WUCOLS.
- vv) **Precipitation rate:** the rate of application of water measured in inches per hour.

- ww) **Project applicant:** the person or entity applying for approval of a landscape project for a new construction project or a landscape rehabilitation project. A project applicant may be the property owner or his or her designee.
- xx) **Property owner:** the legal owner of a property.
- yy) **Rain sensor:** a rain sensing shutoff device that automatically suspends an irrigation event when it rains.
- zz) **Recreational area:** areas dedicated to active play such as parks, sports fields, and golf courses where turf provides a playing surface.
- aaa) **Recycled water, reclaimed water, gray water, or harvested rain water:** non-potable water suitable for uses such as landscape irrigation or water features. This water is not intended for human consumption.
- bbb) **Runoff:** water which is not absorbed by the soil or landscape to which it is applied and flows from the landscape area. For example, runoff may result from water that is applied at too great a rate (application rate exceeds infiltration rate) or when there is a slope.
- ccc) **Soil moisture sensor:** a device that measures the amount of water in the soil. The device may also suspend or initiate an irrigation event.
- ddd) **Soil texture:** the classification of soil based on its percentage of sand, silt, and clay.
- eee) **Special Landscape Area (SLA):** an area of the landscape dedicated solely to edible plants, areas irrigated all or in part with gray water or harvested rain water, water features using only harvested rain water, and areas dedicated to active play such as parks, sports fields, golf courses, and where turf provides a playing surface.
- fff) **Sprinkler head:** a device which delivers water through a nozzle.
- ggg) **Static water pressure:** the pipeline or municipal water supply pressure when water is not flowing.
- hhh) **Station:** an area served by one valve or by a set of valves that operate simultaneously.
- iii) **Swing joint:** an irrigation component that provides a flexible, leak-free connection between the emission device and lateral pipeline to allow movement in any direction and to prevent equipment damage.

- jjj) **Turf:** a ground cover surface of mowed grass, including but not limited to Annual bluegrass, Kentucky bluegrass, Perennial ryegrass, Red fescue, Tall fescue, Bermudagrass, Kikuyugrass, Seashore Paspalum, St. Augustinegrass, Zoysiagrass, and Buffalo grass.

- kkk) **Valve:** a device used to control the flow of water in the irrigation system.

- lll) **Water feature:** a design element where open water performs an aesthetic or recreational function. Water features include artificial ponds, lakes, waterfalls, and streams, and fountains, spas, and swimming pools. The surface area of water features is included in the high water use hydrozone of the landscape area. Constructed wetlands used for on-site wastewater treatment or stormwater best management practices that are not irrigated and used solely for water treatment or stormwater retention are not water features and, therefore, are not subject to the water budget calculation.

- mmm) **WUCOLS:** the Water Use Classification of Landscape Species published by the University of California Cooperative Extension, the Department of Water Resources and the Bureau of Reclamation, 2000, or subsequent editions as it may be updated.

Rule 3.

Tier 1 -New Construction and Rehabilitation Landscape Projects

Beginning January 1, 2011, project applicants for all public agency, commercial, and residential new construction landscape projects and landscape rehabilitation projects, with a modified landscape area equal to or greater than 1,000 square feet and less than 2,500 square feet, shall comply with the following.

- a) Landscape irrigation shall not exceed the applicable Maximum Applied Water Allowance (MAWA) established in Rule 7.

- b) Any turf area, planned or installed, shall not exceed 25 percent of the landscape area. Landscape projects exceeding the 25 percent turf limit shall be considered a Tier 2 landscape project and must follow the requirements for Tier 2 as described in Rule 4.

- c) At least 75 percent of the landscape area shall consist of low water use plants or climate appropriate plants as defined in Rule 2. Landscape projects with less than 75 percent of the landscape area consisting of low water use plants or climate appropriate plants shall be considered a Tier 2 landscape project and must follow the requirements for Tier 2 as described in Rule 4.

- d) Prior to commencing installation or modification of landscape that is not an edible plant, and prior to the issuance of the first construction document, if applicable, the project applicant shall:
 - i. Submit and have approved by the General Manager a Tier 1 Landscape Application including:
 - A. Tier 1 landscape project checklist, which serves as a preliminary summation of selected landscape components to determine whether a proposed landscape is consistent with the applicable MAWA established in Rule 7; and
 - B. List of plants, trees, shrubs, or other vegetation that are to remain or be installed in the landscape area.
 - ii. For landscape projects installed as part of the construction or renovation of a building, the Tier 1 Landscape Application shall be submitted prior to the Landscape Documentation Deadline; and
 - iii. In the case of project applicants or property owners that are not required to obtain permits and approvals from the City's Department of Building Inspection, a Tier 1 Landscape Application shall be submitted to and approved by the General Manager prior to commencing installation or modification of landscape.
- e) Following the installation of the landscape and any irrigation system, the project applicant shall submit a Certificate of Landscape Completion which certifies that the installed landscape and/or irrigation area does not consume water at a rate that exceeds the applicable MAWA established in Rule 7.
- f) Landscape areas that are part of a compliance plan pursuant to Rule 5 shall be required to provide Tier 1 compliance documents as set forth in the provisions of the compliance plan.
- g) If complete documentation for Tier 1 compliance has not been submitted to the General Manager on or before the Landscape Documentation Deadline, the General Manager shall request to the Director of Department of Building Inspection that an address restriction shall be placed on the property such that no further construction permits or addenda shall be issued and no further inspections by the Department of Building Inspection shall occur, unless and until all landscape documentation, developed in accordance with the provisions of this chapter and the Public Utilities Commission's rules and regulations has been submitted to the General Manager for approval.

Rule 4.**Tier 2 - New Construction and Rehabilitation Landscape Projects**

Beginning January 1, 2011, the project applicant for all public agency, commercial, and residential new construction landscape projects and landscape rehabilitation projects, with a modified landscape area equal to or greater than 2,500 square feet, or a project under Tier 1 with a turf limitation exceeding 25 percent of the landscape area or with less than 75 percent of the landscape area consisting of low water use plants or climate appropriate plants, shall comply with the following.

- a) Prior to commencing installation or modification of landscape, the project applicant shall submit and have approved by the General Manager, a Landscape Documentation Package consistent with the Water Efficient Design and Operation Elements in Rule 6.
- b) For landscape projects installed as part of the construction or renovation of a building, the Tier 2 Landscape Documentation Package shall be submitted prior to the Landscape Documentation Deadline.
- c) In the case of project applicants or property owners that are not required to obtain permits and approvals from the City's Department of Building Inspection, a Tier 2 Landscape Documentation Package shall be submitted to and approved by the General Manager prior to commencing installation or modification of landscape.
- d) Submit and have approved by the General Manager, prior to the submittal date of a first certificate of occupancy or prior to sign off on a landscape project authorization, the Landscape Documentation Package and a Certificate of Landscape Completion. The General Manager may authorize issuance of a first certificate of occupancy prior to approval of a Certificate of Landscape Completion, subject to conditions determined by the General Manager.
- e) Landscape areas that are part of a compliance plan pursuant to Rule 5 shall be required to provide Tier 2 compliance documents as set forth in the provisions of the compliance plan.
- f) If complete documentation for Tier 2 compliance has not been submitted to the General Manager on or before the Landscape Documentation Deadline, the General Manager shall request to the Director of Department of Building Inspection that an address restriction shall be placed on the property such that no further construction permits or addenda shall be issued and no further inspections by the Department of Building Inspection shall occur, unless and until all landscape documentation, developed in accordance with the provisions of this chapter and the Public Utilities Commission's rules and

regulations has been submitted to the General Manager for approval.

Rule 5.

Compliance Plans for Large Irrigated Landscapes

Property owners maintaining a total irrigated landscape of 10 acres or greater may submit compliance plans for approval by the General Manager that support a programmatic approach to compliance with Section F, rather than through the review and approval of individual landscape rehabilitation projects.

- a) The General Manager shall establish a deadline for each property owner to develop and submit a compliance plan, which shall not exceed 3 years following the date of the property owner's initial request for review and approval of a compliance plan.
- b) The property owner shall comply with all the terms of the approved compliance plan. The property owner's failure to comply with provisions of the compliance plan is a violation of Section F and subject to enforcement under the provisions of these rules or any other remedy available to the General Manager.
- c) The compliance plan shall prioritize the phased implementation of landscape projects, beginning with the projects with the greatest water savings, to the extent feasible when balanced with other project objectives.
- d) The compliance plan, if authorized by the General Manager, supersedes the process and procedures set forth in Rules 3 and 4.
- e) The compliance plan shall ensure compliance with the requirements of Rule 6 and shall include a date or dates by which the components of the compliance plan shall be completed.

Rule 6.

Water Efficient Design and Operation Elements

The elements of a landscape shall be designed to achieve water efficiency. Tier 1 projects with a landscape area greater than 1,000 square feet but less than 2,500 square feet shall demonstrate water efficiency and compliance with this rule by providing appropriate responses to specific checklist items and certification pursuant to Rule 3.

Tier 2 projects with a landscape area greater than 2,500 square feet require a complete Landscape Documentation Package and shall comply with all applicable criteria of this rule.

a) Plant Material

- i. Plants shall be chosen and arranged appropriately based upon the site's climate, soil characteristics, sun exposure, wildfire susceptibility and other factors. Plants with similar water needs shall be grouped within hydrozones.
- ii. Turf is not allowed on slopes greater than 25 percent.
- iii. Turf areas shall not be less than eight feet wide.
- iv. The turf grass limitation excludes parklands or public recreation areas, sports fields, golf courses, cemeteries, or public areas, and areas irrigated with gray water or harvested rain water.
- v. The use of invasive plant species or noxious weeds is prohibited.
- vi. The use of local California native plant species is encouraged in order to reduce water use and promote wildlife habitat.
- vii. The architectural guidelines of a common interest development, which include community apartment projects, condominiums, planned developments, and stock cooperatives, shall not prohibit or include conditions that have the effect of prohibiting the use of low-water use plants as a group.

b) Irrigation System

- i. Dedicated landscape water meters are required on landscape areas greater than 5,000 square feet to facilitate water management.
- ii. Automatic irrigation controllers utilizing either evapotranspiration or soil moisture sensor data shall be required.
- iii. Rain sensors either integral or auxiliary, which suspend or alter irrigation operation during unfavorable weather conditions, shall be required on all irrigation systems.
- iv. The irrigation hardware for each hydrozone shall include a separate valve.

- v. The irrigation systems shall be designed to prevent runoff, low head drainage, overspray and other similar conditions.
- vi. Low volume irrigation shall be required in mulched areas, in areas with slope greater than 25 percent, within 24 inches of a non-permeable surface or in anyirregularly shaped areas that are less than eight (8) feet in width. These restrictions do not apply if:
 - A. The landscape area is adjacent to permeable surfacing and no runoff occurs;
 - or
 - B. The adjacent non-permeable surfaces are designed and constructed to drain entirely to landscaping.
- vii. Irrigation systems shall be designed, maintained, and managed to meet or exceed an average landscape irrigation efficiency of 70 percent.

c) Hydrozones

- i. Each valve shall irrigate only hydrozones with similar plant factors or site conditions such as: slope, sun exposure, and soil conditions.
- ii. Sprinkler heads and other emission devices shall be selected based on what is appropriate for the plant type within that hydrozone.
- iii. Where feasible, trees shall be placed on separate valves from shrubs, groundcovers, and turf.
- iv. Individual hydrozones that mix plants of moderate and low water use shall use the higher water using plant factor. High water use plants shall not be mixed with low or moderate water use plants.
- v. On the landscape design plan and irrigation design plan, hydrozone areas shall be designated by number, letter, or other designation. On the irrigation design plan, designate the areas irrigated by each valve, and assign a number to each valve.

d) Mulch and Amendments

- i. A minimum two-inch (2") layer of mulch shall be applied on all exposed soil surfaces of planting areas except in direct seeding applications (i.e. hydro-seed).

- ii. Stabilizing mulching products shall be used on slopes.
- iii. Soil amendments shall be incorporated according to recommendations of the soil report and what is appropriate for the plants selected.

e) Water Features

- i. Recirculating water systems shall be used for water features.
- ii. Where available, recycled water or harvested rain water shall be used as a source for decorative water features.
- iii. Surface area of a water feature shall be included in the high water use hydrozone area of the water budget calculation.

f) Irrigation Scheduling

Irrigation schedules shall be developed, managed, and evaluated to utilize the minimum amount of water required to maintain plant health. Irrigation schedules shall meet the following criteria.

- i. Irrigation scheduling shall be regulated by automatic irrigation controllers.
- ii. Overhead irrigation shall be scheduled between 8:00 p.m. and 10:00 a.m. unless weather conditions prevent it.
- iii. Irrigation schedules for each station shall consider:
 - A. Irrigation interval (days between irrigation);
 - B. Irrigation run times (time period per irrigation event to avoid runoff);
 - C. Number of cycle starts required for each irrigation event to avoid runoff;
 - D. Application rate setting;
 - E. Plant type setting;
 - F. Soil type; and
 - G. Slope factor setting.

g) Landscape and Irrigation Maintenance Schedule

Landscapes shall be maintained to ensure water use efficiency. A regular maintenance schedule shall be submitted with the Certificate of Landscape Completion and shall include the following.

- i. Routine inspection; adjustment and repair of the irrigation system and its components; aerating and de-thatching turf areas; replenishing mulch; fertilizing; pruning; weeding in all landscape areas; replacement of failed plants with same or equivalent plants; and removing obstruction to emission devices.
- ii. Repair of all irrigation equipment shall be done with the originally installed components or their equivalents.

h) Irrigation Audits

Landscape and irrigation assessments for new or rehabilitated landscapes shall be conducted after the landscaping and irrigation system have been installed. The findings of the assessment shall be consolidated into the Certificate of Completion submittal and may include, but are not limited to inspection, system tune-up, system test with distribution uniformity, reporting overspray or runoff that causes overland flow, and preparation of an irrigation schedule.

- i. For Tier 1 projects, the audit shall be conducted by the project applicant, a designated PUC water service inspector, or by a certified landscape irrigation auditor.
- ii. For Tier 2 projects, the irrigation audit shall be conducted by a PUC water service inspector or by a certified landscape irrigation auditor.
- iii. The General Manager shall administer programs that may include, but not be limited to, irrigation water use analysis, irrigation audits, and irrigation surveys for compliance with the Maximum Applied Water Allowance.

Rule 7.

Maximum Applied Water Allowance (MAWA)

The operation of irrigation systems in new construction landscapes and landscape rehabilitation projects subject to Rules 3, 4, and 5 shall adhere to a Maximum Applied Water Allowance which shall be the upper limit of water that may be lawfully applied through the irrigation system. The MAWA for an irrigation system installed for a new construction landscape or landscape rehabilitation project shall be calculated using the following equation.

$$\text{MAWA} = (35.1) (0.62) [(0.7 \times \text{LA}) + (0.3 \times \text{SLA})]$$

Where:	MAWA = Maximum Applied Water Allowance (gallons per year)
35.1	= ETo or Reference Evapotranspiration for San Francisco (inches per year)
0.62	= Conversion Factor (to gallons)
0.7	= ET Adjustment Factor (ETAF)
LA	= Landscape Area including SLA (square feet)
0.3	= Additional Water Allowance for SLA
SLA	= Special Landscape Area (square feet)

Rule 8.

Landscape Documentation Package

Tier 2 projects applications shall include at a minimum:

- a) Project information sheet;
- b) Water Efficient Landscape Worksheets which establish the project's MAWA and ETWU;
- c) Soil management report;
- d) Landscape design plan;
- e) Irrigation design plan; and
- f) Grading design plan.

Rule 9.

Soil Management Report

- a) In order to reduce runoff and encourage healthy plant growth, a soil management report shall be completed by all Tier 2 project applicants where significant mass grading is planned. The soil management report or other documentation approved by the General Manager, shall document the various soil characteristics such as:
 - i. Soil texture;
 - ii. Infiltration rate determined by laboratory test or soil texture infiltration rate table;
 - iii. pH;
 - iv. Total soluble salts;

- v. Sodium;
- vi. Percent organic matter; and
- vii. Recommendations.

b) The project applicant shall comply with one of the following:

- i. If significant mass grading is not planned, the soil analysis shall be submitted as part of the Landscape Documentation Package; or
- ii. If significant mass grading is planned, the soil analysis report shall be submitted as part of the Certificate of Landscape Completion.

The soil analysis report shall be made available, in a timely manner, to the designers preparing the landscape design plans and irrigation design plans to make any necessary adjustments to the design plans.

The project applicant shall submit documentation verifying implementation of soil analysis report recommendations to the General Manager with the Certificate of Landscape Completion.

Rule 10.

Landscape Design Plan

Tier 2 landscapes shall be carefully designed for the intended function of the project. A landscape design plan shall meet the following design criteria and shall be submitted as part of the Landscape Documentation Package. The landscape design plan, at a minimum, shall:

- a) Include all applicable elements of Rule 6: Water Efficient Landscape Design and Operation Elements;
- b) Identify all plants to be installed as part of the landscape project including: common name, botanical name, quantity, type (e.g. grass, succulent, vine, shrub, and tree), and plant factor as defined in Rule 2;
- c) Delineate and label each hydrozone by number, letter, or other method;
- d) Identify each hydrozone as low, moderate, high water, or mixed (low/moderate) water use, as defined by WUCOLS;
- e) Include temporarily irrigated areas of the landscape in a low water use hydrozone for the purpose of water budget calculation;

- f) Identify recreational areas;
- g) Identify areas permanently and solely dedicated to edible plants or edible fruit or nut trees;
- h) Identify areas irrigated with gray water or harvested rain water;
- i) Identify type of mulch and application depth;
- j) Identify soil amendments, type, and quantity;
- k) Identify type and surface area of water features;
- l) Identify hardscapes (pervious and non-pervious);
- m) Identify location and installation details of any applicable stormwater best management practices that demonstrate compliance with the San Francisco Stormwater Design Guidelines for on-site retention and infiltration of stormwater. Examples include, but are not limited to: rain gardens, bioretention areas, infiltration basins, constructed wetlands, pervious pavements, and rain water harvesting systems;
- n) Contain the following statement: "I have complied with the requirements of the Water Efficient Irrigation Ordinance and Section F of the San Francisco Public Utilities Commission Rules and Regulations Governing Water Service Customers, and I have applied the requirements for the efficient use of water in this landscape design plan;" and
- o) Bear the signature of a licensed landscape architect, licensed landscape contractor, or other person authorized by the General Manager.

Rule 11.

Irrigation Design Plan

Irrigation systems shall meet all the requirements listed in this section and the manufacturers' recommendations. The irrigation system and its related components shall be planned and designed to allow for proper installation, management, and maintenance. An irrigation design plan meeting the following design criteria shall be submitted as part of the Landscape Documentation Package. The irrigation design plan, at a minimum, shall contain:

- a) Include all applicable elements of Rule 6: Water Efficient Landscape Design and Operation Elements;

- b) Location and size of separate water meters for landscape (if applicable);
- c) Location, type and size of all components of the irrigation system, including controllers, main and lateral lines, valves, sprinkler heads, moisture sensing devices, rain switches, quick couplers, pressure regulators, and backflow prevention devices;
- d) Static water pressure at the point of connection to the public water supply. If a booster pump is used, include the operating pressure downstream from the pump;
- e) Flow rate (gallons per minute), application rate (inches per hour), and design operating pressure (pressure per square inch) for each station;
- f) Indication of where any recycled water, gray water, or harvested rain water irrigation systems are used;
- g) The following statement: "I have complied with the requirements of the Water Efficient Irrigation Ordinance and Section F of the San Francisco Public Utilities Commission Rules and Regulations Governing Water Service Customers, and I have applied the requirements for the efficient use of water in this landscape design plan;" and
- h) The signature of a licensed landscape architect, certified irrigation designer, licensed landscape contractor, or other person authorized by the General Manager to design an irrigation system.

Rule 12.

Grading Design Plan

If the Tier 2 landscape project area will be graded, the grading shall be designed to minimize soil erosion, runoff, and water waste; and a grading plan shall be submitted as part of the Landscape Documentation Package.

The project applicant shall submit a landscape grading plan that indicates finished configurations and elevations of the landscape area including:

- a) Height of graded slopes;
- b) Drainage patterns;
- c) Pad elevations;

- d) Finish grade; and
- e) Stormwater retention improvements, if applicable.

The grading design plan shall contain the following statement: "I have complied with the requirements of the Water Efficient Irrigation Ordinance and Section F of the San Francisco Public Utilities Commission Rules and Regulations Governing Water Service Customers, and I have applied the requirements for the efficient use of water in this landscape design plan;" and shall bear the signature of a licensed civil engineer or landscape architect as authorized by law.

**Rule 13.
Certificate of Landscape Completion**

For all Tier 1 and Tier 2 projects, the project applicant shall submit to the General Manager the Certificate of Landscape Completion. The Certificate of Landscape Completion shall include the following elements.

- a) For Tier 1, certification by the project applicant that the landscape project has been installed per the approved Tier 1 Landscape Application. For Tier 2, certification by the signer of the landscape design plan, the signer of the irrigation design plan, or the licensed landscape contractor that landscape project has been installed per the Landscape Documentation Package.
- b) Irrigation scheduling parameters used to set the controller.
- c) Landscape and irrigation maintenance schedule.
- d) For Tier 2, irrigation audit report.

**Rule 14:
Irrigation Audits for Landscape Areas**

The General Manager may require irrigation audits to evaluate water use on landscape areas. Such audits may be initiated as a coordinated effort between the General Manager and the water service customer as part of the General Manager's Landscape Conservation Program, or if violation is reported to or discovered by the General Manager. When such audit is required, it must be completed by a certified landscape irrigation auditor.

- a) Following the findings and recommendations of the certified landscape irrigation auditor, the General Manager may require adjustments to the irrigation usage, irrigation hardware, and/or landscape materials to reduce irrigation water use.

- b) The landscape shall comply with the Maximum Applied Water Allowance for landscapes. The ET Adjustment Factor for existing landscapes is 0.8 and the ET Adjustment Factor for new construction landscapes and rehabilitated landscapes is 0.7.
- c) The MAWA for an irrigation system for an existing landscape area of any size shall be calculated using the following equation.
$$\text{MAWA} = (35.1) (0.62) [(0.8 \times \text{LA}) + (0.2 \times \text{SLA})]$$

Where: MAWA = Maximum Applied Water Allowance (gallons per year)

35.1 = ETo or Reference Evapotranspiration (inches per year)

0.62 = Conversion Factor (to gallons)

0.8 = ET Adjustment Factor (ETAF)

LA = Landscape Area including SLA (square feet)

0.2 = Additional Water Allowance for SLA

SLA = Special Landscape Area (square feet)

- d) The MAWA for an irrigation system for a new construction landscape or rehabilitated landscape shall be as defined in Rule 7.

Rule 15.

Recycled Water, Gray Water, Harvested Rain Water

- a) For purposes of Section F, a rehabilitated landscape does not include landscape areas where only the irrigation system is retrofitted for the use of recycled water and only plantings that restore areas disturbed by the recycled water retrofits are installed. Recycled water irrigation retrofit projects shall employ best management practices to prevent runoff, ponding and overspray as directed in their recycled water use permit and comply with all applicable local and state regulation. The installation of recycled water irrigation systems shall be required if the General Manager finds that recycled water meeting all applicable requirements is available for irrigation uses.
- b) The San Francisco Public Utilities Commission encourages the installation of gray water or harvested rain water irrigation systems for current and future use. New, rehabilitated and existing landscapes using gray water and harvested rain water shall be considered Special Landscape Areas. An ET Adjustment Factor for the total landscape shall not exceed 1.0. Existing Special Landscape Areas shall be allowed more water by using an ET Adjustment Factor of 0.8 and additional water allowance of 0.2 or 20%. New or rehabilitated Special Landscape Areas shall be allowed more water by using an ET Adjustment Factor of 0.7 and additional water allowance of 0.3 or 30%

- c) Landscapes using gray water and harvested rain water are exempt from the turf limitations subject to Rule 6, but shall comply with the Maximum Applied Water Allowance of the landscape.
- d) Irrigation systems and decorative water features shall use recycled water if the General Manager finds that recycled water meeting all public health codes and standards is available and will be available for the foreseeable future. Use of gray water in irrigation systems and use of harvested rain water in irrigation systems and decorative water features, are strongly encouraged.
- e) All recycled water, gray water and harvested rain water systems shall be designed and operated in accordance with all applicable local and State laws.

Rule 16.

Water Waste Prevention

- a) For landscaped areas of any size in the City and County of San Francisco, water runoff leaving the landscape area due to low head drainage, overspray, broken irrigation hardware, or other similar conditions where water flows onto adjacent property, walks, roadways, parking lots, structures, or non-irrigated areas, is prohibited.
- b) In the event this rule or any other rule is violated, the General Manager may issue a written warning, entered on the user's water service record and delivered to customer via mail, personal service, or other reasonable means. The letter will include information regarding the violation, education information on the restrictions, resources available from the General Manager to assist in complying with regulations, and a deadline for correcting the violation.
- c) If the violations are not corrected to the satisfaction of the General Manager, the property owner, and project applicant where appropriate, shall be subject to enforcement in accordance with San Francisco Public Utilities Commission rules for limitation or termination of service, Chapter 100 of the San Francisco Administrative Code with respect to administrative penalties, and any other available legal remedies, at the sole discretion of the General Manager.

APPENDIX - SAMPLE CALCULATIONS OF MAWA AND ETWU

Maximum Applied Water Allowance: The example calculations below are hypothetical to demonstrate proper use of the Maximum Applied Water Allowance equation pursuant to Rule 7 and required water budget calculations.

Example 1: A hypothetical landscape rehabilitation project in San Francisco, with a modified landscape area of 2,500 square feet without any Special Landscape Area (SLA= 0, no edible plants, recreational areas, or use of gray water, or harvested rain water). To calculate MAWA, the annual reference evapotranspiration value for San Francisco is 35.1 inches.

$$\text{MAWA} = (35.1) (0.62) [(0.7 \times \text{LA}) + (0.3 \times \text{SLA})]$$

$$\text{MAWA} = (35.1) (0.62) [(0.7 \times 2,500 \text{ square feet}) + (0.3 \times 0)] = 38,084 \text{ gallons per year}$$

To convert from gallons per year to gallons per day: $38,084/365 = 104$ gallons per day

Water meters measure flow in hundred-cubic-feet (CCF):

1 CCF = 748 gallons so in this example the MAWA is 51 CCF per year

Example 2: A new construction project to build a school in San Francisco has a total landscape area of 100,000 square feet. Within the 100,000 square foot project, there is a 75,000 square foot area to be planted with turf for a soccer field. This 75,000 square foot area is considered to be a Special Landscape Area.

$$\text{MAWA} = (35.1) (0.62) [(0.7 \times \text{LA}) + (0.3 \times \text{SLA})]$$

$$\text{MAWA} = (35.1) (0.62) [(0.7 \times 100,000 \text{ square feet}) + (0.3 \times 75,000 \text{ square feet})]$$

$$= 21.76 \times [70,000 + 22,500]$$

$$= 21.76 \times 92,500$$

$$= 2,012,800 \text{ gallons per year or } 5,515 \text{ gallons per day or } 2,691 \text{ CCF per year}$$

Estimated Total Water Use: The example calculations below are hypothetical to demonstrate proper use of the Estimated Total Water Use. The sum of the Estimated Total Water Use calculated for all hydrozones shall not exceed the MAWA.

$$ETWU = (35.1)(0.62) \left(\frac{PF \times HA + SLA}{IE} \right)$$

Where:

ETWU = Estimated Total Water Use per year (gallons)

35.1 = ETo or Reference Evapotranspiration (inches per year)

0.62 = Conversion Factor

PF = Plant Factor from WUCOLS

HA = Hydrozone Area [high, medium, and low water use areas (square feet)]

(PFxHA) = The sum of the Plant Factor multiplied by the Hydrozone Area for all hydrozones

IE = Irrigation Efficiency (minimum 0.71)

SLA = Special Landscape Area (square feet)

Example 1: A new construction landscape area is 50,000 square feet; plant water use type, plant factor, and hydrozone area are shown in the table below. In San Francisco the ETo value is 35.1 inches per year. There are no Special Landscape Areas (recreational area, area permanently and solely dedicated to edible plants, or area irrigated with gray water or harvested rain water) in this example.

Hydrozone	Plant Water Use Type(s)	Plant Factor (PF)*	Hydrozone Area (HA) (square feet)	PF x HA (square feet)
1	High	0.8	7,000	5,600
2	High	0.7	10,000	7,000
3	Medium	0.5	16,000	8,000
4	Low	0.3	7,000	2,100
5	Low	0.2	10,000	2,000
			Sum	24,700

*Plant Factor from WUCOLS

$$ETWU = 35.1 \times 0.62 \times \left(\frac{24,700}{0.71} + 0 \right) = 757,072 \text{ gallons per year}$$

Compare ETWU with MAWA for this example:

MAWA = (35.1) (0.62) [(0.7 x 50,000) + (0.3 x 0)] = 761,775 gallons per year. ETWU (757,072 gallons per year) is less than MAWA (761,775 gallons per year). In this example, the water budget complies with the MAWA.

Example 2: ETWU calculation: total landscape area is 50,000 square feet, 2,000 square feet of which is planted with edible plants. The edible plant area is considered a Special Landscape Area (SLA). In San Francisco, the reference evapotranspiration value is 35.1 inches per year. The plant type, plant factor, and hydrozone area are shown in the table below.

Hydrozone	Plant Water Use Type(s)	Plant Factor (PF)*	Hydrozone Area (HA) (square feet)	PF x HA (square feet)
1	High	0.8	7,000	5,600
2	High	0.7	9,000	6,300
3	Medium	0.5	15,000	7,500
4	Low	0.3	7,000	2,100
5	Low	0.2	10,000	2,000
			Sum	23,500
6	SLA	1.0	2,000	2,000

*Plant Factor from WUCOLS

$$ETWU = 35.1 \times 0.62 \times \left(\frac{23,500}{0.71} + 2,000 \right)$$

$$= (21.76) (33,099 + 2,000)$$

$$= 763,754 \text{ gallons per year}$$

Compare ETWU with MAWA. For this example:

$$MAWA = (35.1) (0.62) [(0.7 \times 50,000) + (0.3 \times 2,000)]$$

$$= 21.76 \times [35,000 + 600]$$

$$= 21.76 \times 35,600$$

$$= 774,656 \text{ gallons per year}$$

