

# COMPLYING WITH SAN FRANCISCO'S WATER EFFICIENT IRRIGATION REQUIREMENTS



Issue Date: January 2011



## RESOURCES:

### RELATED DOCUMENTS

Available at:

[www.sfwater.org/landscape](http://www.sfwater.org/landscape)

- SFPUC Water Efficient Irrigation Ordinance\*
- SFPUC Rules and Regulations Governing Water Service to Customers, Section F - Water Efficient Irrigation\*
- San Francisco Plant Water Use List
- SFPUC Low Water Use and Climate Appropriate Plant List
- Examples of Maximum Applied Water Allowance (MAWA) Calculations
- Examples of Estimated Total Water Use (ETWU) Calculations
- Tier 1 application form and certificate of completion\*
- Tier 2 landscape documentation package and certificate of completion\*
- Large Landscape Compliance Plan application form
- Water Budget Calculator

\* Printed reference copies of these materials are available at SFPUC Customer Service



### CONTACT INFORMATION

San Francisco Public Utilities Commission Water Conservation Section

[waterconservation@sfwater.org](mailto:waterconservation@sfwater.org)

(415) 551-4730

<http://conserve.sfwater.org>

### SFPUC WATER CONSERVATION SECTION

For questions about the irrigation ordinance, contact:

(415) 551-4730

[landscape@sfwater.org](mailto:landscape@sfwater.org)

For questions about other conservation services and assistance available to San Francisco residents and businesses, contact:

(415) 551-4730

[waterconservation@sfwater.org](mailto:waterconservation@sfwater.org)

### SFPUC CUSTOMER SERVICE

For printed reference copies of materials posted online, to pick up free conservation devices, or for help with accounts and billing, visit:

1155 Market Street, 1st Floor,  
San Francisco, CA 94103

Open from 8am to 5pm, Monday to  
Friday, except public holidays

(415) 551-3000

### DEPARTMENT OF BUILDING INSPECTION

For questions about building permits, visit:

1660 Mission Street  
San Francisco, CA 94103

Open from 8am to 5pm, Monday to  
Friday, except public holidays

(415) 558-6088

[www.sfdbi.org](http://www.sfdbi.org)

## CONTENTS:

<b>Introduction . . . . .</b>	<b>1</b>
<b>Who Needs to Comply? . . . . .</b>	<b>2</b>
<b>Tier 1 Compliance . . . . .</b>	<b>6</b>
<b>Tier 2 Compliance . . . . .</b>	<b>7</b>
<b>Glossary . . . . .</b>	<b>9</b>

## INTRODUCTION

Water is a scarce resource in California, and everyone who lives, works and visits our state can help use water wisely.

California has enacted the Water Conservation in Landscaping Act (Assembly Bill 1881), requiring all communities to adopt ordinances that regulate landscape irrigation practices and plant use. To meet this mandate, San Francisco is replacing its existing irrigation ordinance (Chapter 63 of the San Francisco Administration Code) and adopting a new **Water Efficient Irrigation Ordinance** and companion rules that will expand the water conservation requirements for outdoor water use. The new ordinance is effective January 1, 2011, and will help us improve the City's green space and save water at the same time.

Common Name: California Poppy  
Botanical Name: *Eschscholzia californica*  
**Very Low Water Use**



The photos in this Guide were taken at the Garden for the Environment, located in San Francisco on 7th Avenue at Lawton Street. The Garden, partially sponsored by the SFPUC, is a one-acre urban garden open to the public and also offers environmental education programs. To learn about their classes, please visit:

[www.GardenForTheEnvironment.org](http://www.GardenForTheEnvironment.org)



### San Francisco's Water Efficient Irrigation Ordinance will:

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

### Goals of this guide:

This guide serves as an introduction to the Water Efficient Irrigation Ordinance and SFPUC companion rules and regulations; and helps San Francisco residents, property owners, and landscapers understand the benefits, requirements, and ways to comply with this ordinance.

For a complete list of all the rules and regulations necessary for compliance, please refer to Section F of the Rules and Regulations Governing Water Service to Customers. This document is also available online at [www.sfwater.org/landscape](http://www.sfwater.org/landscape).

### Definition of Terms:

Definitions of *selected terms* can be found on page 9.

## WHO NEEDS TO COMPLY?

Owners of **public agency, residential, commercial, and mixed use properties** with new construction landscape projects or *landscape rehabilitation projects* that include the following:

### Tier 1:

- A new or modified *landscape area* of 1,000 square feet or greater, but less than 2,500 square feet; **and**
- The landscape area consists of no more than 25% *turf* and at least 75% low water use or climate appropriate plantings.

### Tier 2:

- A new or modified landscape area of 2,500 square feet or greater; **or**
- Landscape projects that fall under the size criteria for Tier 1, but with a turf area exceeding 25% of the landscape area, or with less than 75% low water use or climate appropriate plantings.

Landscape areas of any size are subject to provisions for water management practices and water waste prevention.

### Exemptions:

The ordinance does not apply to:

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

### When to comply?

Beginning January 1, 2011, all new landscape projects and all landscape modification projects that meet the criteria above will have to comply with the new ordinance.

## DO I NEED TO COMPLY?

ARE YOU PLANNING TO:

- Install a new landscape?
- Modify an existing landscape?

NO

Follow water efficient landscaping practices and comply with water waste prevention provisions.

YES

HOW BIG IS YOUR NEW OR MODIFIED LANDSCAPE AREA?

Less than 1,000 ft<sup>2</sup>



Follow water efficient landscaping practices and comply with water waste prevention provisions.

Equal to or greater than 1,000 ft<sup>2</sup>, but less than 2,500 ft<sup>2</sup>



Comply with Tier 1 requirements

If the landscape area consists of:

- (a) more than 25% turf area, OR
- (b) less than 75% climate appropriate and low water use plants

Comply with Tier 2 requirements utilizing a landscape professional

Projects over 5,000 ft<sup>2</sup> also need to install separate irrigation water service.

Equal to or greater than 2,500 ft<sup>2</sup>

A total area of 10 acres or greater

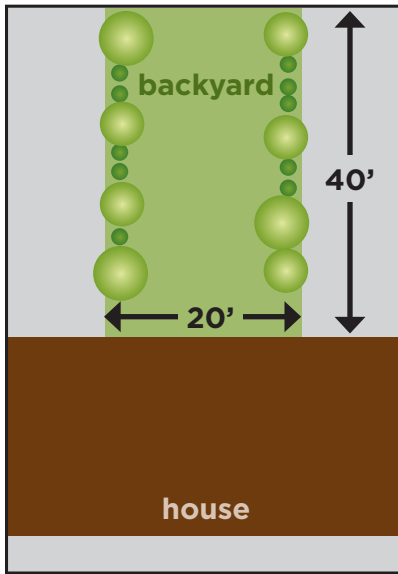


Comply with large landscape requirements

Property owner may choose to comply pursuant to an approved Compliance Plan. Contact SFPUC.

**EXAMPLE A**

The residents of this house want to replace the turf in their backyard with low water use plants.



**What is the square footage of the landscape area to be modified?**

Using a measuring tape, they found their backyard to be 20 feet wide by 40 feet long for a total landscape area of:

Landscape area = 20' x 40' = 800 square feet

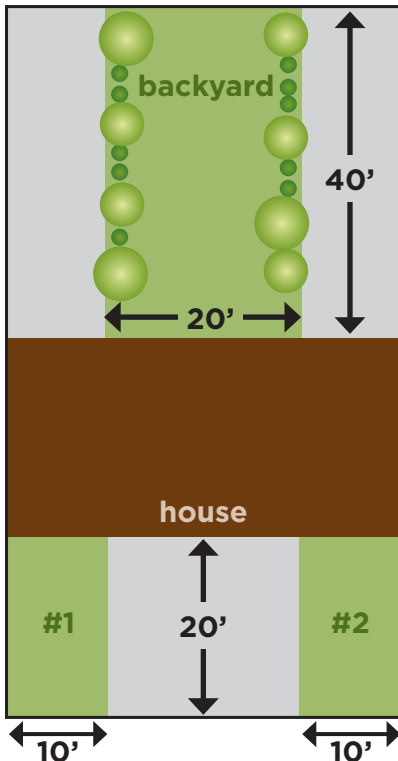
**Conclusion:**

The total modified landscape area is less than 1,000 square feet. Water efficient landscaping practices are encouraged. Project should also comply with water waste prevention provisions.

For more information visit [www.sfwater.org/landscape](http://www.sfwater.org/landscape).

**EXAMPLE B**

A new house will be built with a front yard including two planted areas and a backyard.



**What is the total square footage of the new landscape area?**

By measuring the backyard and two planted areas in the front yard with a measuring tape, the project's landscape area measurements are:

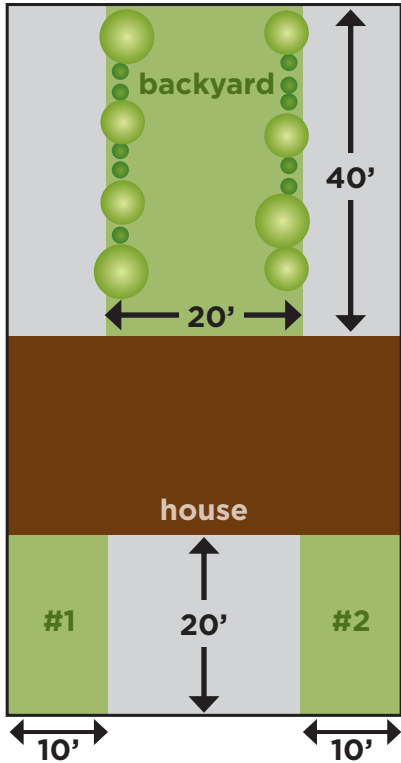
AREA	Width x Length	Square footage
Backyard	20' x 40'	800 ft <sup>2</sup>
Planted Area #1	10' x 20'	200 ft <sup>2</sup>
Planted Area #2	10' x 20'	200 ft <sup>2</sup>
<b>Total:</b>		<b>1,200 ft<sup>2</sup></b>

**Conclusion:**

The total new landscape area is over 1,000 square feet. The project must comply with Tier 1 requirements. See page 6 for detailed Tier 1 requirements.

## EXAMPLE C

A property owner wants to redesign the backyard with low water use plants and replace the front yard with turf grass, a high water use plant.



What is the total square footage of the landscape area?

AREA	Width x Length	Square footage
Backyard	20' x 40'	800 ft <sup>2</sup>
Planted Area #1	10' x 20'	200 ft <sup>2</sup>
Planted Area #2	10' x 20'	200 ft <sup>2</sup>
<b>Total:</b>		<b>1,200 ft<sup>2</sup></b>

What percentage of the landscape area is turf?

$$\begin{aligned}
 \text{Turf \%} &= \text{turf area} / \text{total landscape area} \\
 &= (200+200) / 1,200 \\
 &= 33\%
 \end{aligned}$$

### Conclusion:

The total modified landscape area is over 1,000 square feet, and the total turf area is over 25% of the landscape area, so this **project must comply with Tier 2 requirements**. See page 7 for detailed Tier 2 requirements.



Common Name: Shasta Daisy  
 Botanical Name: *Chrysanthemum maximum*  
**Moderate water use**



Common Name: Mexican Evening Primrose  
 Botanical Name: *Oenothera speciosa*  
**Low water use**

## TIER 1 PROJECT COMPLIANCE

### Key Points:

- *Landscape area* of 1,000 square feet or greater, but less than 2,500 square feet
- Simple checklist compliance
- Does not require a landscape professional

### Tier 1 Applicability:

The requirements apply to new construction landscape projects or landscape rehabilitation projects with the following attributes:

- A new or modified landscape area of 1,000 square feet or greater, but less than 2,500 square feet; and
- The landscape area must consist of no more than 25% turf and at least 75% low water use or climate appropriate plantings.

Project exceeding the 25% turf limit or consists of less than 75% low water use or climate appropriate plantings is considered a Tier 2 project.

### Tier 1: How to Comply

All documents are available online at [www.sfwater.org/landscape](http://www.sfwater.org/landscape), at the SFPUC Customer Service Office, or the Department of Building Inspection.

#### Submit the following *before* landscape installation\*:

Tier 1 project application form

#### Submit the following *after* installation:

Certificate of completion

\* For landscape projects installed as part of the construction or renovation of a building involving permits with the San Francisco Department of Building Inspection, the project's landscape compliance documents must be submitted by the [Landscape Documentation Deadline](#).

### Requirements:

- Plant at least 75% of the landscape with low water use or climate appropriate plants. A list of these plants is available online at [www.sfwater.org/landscape](http://www.sfwater.org/landscape).
- No invasive plant species or noxious weeds.
- Group plants with similar water needs within *hydrozones* and each hydrozone is controlled by a single irrigation valve.
- No *turf* on slopes greater than 25% or in areas that are less than eight feet wide, except limited circumstances allowed by law.
- Install automatic irrigation controllers that are equipped with rain sensors and use either evapotranspiration or soil moisture sensor data to adjust irrigation operation.
- Apply a minimum two inch (2") layer of mulch or stabilizing products on all exposed soil surfaces or planting areas to minimize evaporation, suppress weeds, moderate soil temperature, and prevent soil erosion on slopes.
- Use re-circulating *water features* and, where available, use recycled water or harvested rain water.
- Do not exceed the *Maximum Applied Water Allowance (MAWA)* for irrigation use. Examples on how to calculate the MAWA can be found online at [www.sfwater.org/landscape](http://www.sfwater.org/landscape).

#### Note:

Tier 1 compliance does not require the services of a landscape professional.



Common Name: African Daisy  
Botanical Name: *Arctotis*  
Moderate Water Use



## TIER 2 PROJECT COMPLIANCE

### Key Points:

- *Landscape area* of 2,500 square feet or greater
- Landscape Documentation Package required
- Requires the services of a landscape professional

### Tier 2 Applicability:

The requirements apply to new construction landscape projects or landscape rehabilitation projects with the following attributes:

- A new or modified landscape area of 2,500 square feet or greater; or
- Landscape projects meeting the size criteria for Tier 1, but with a turf area exceeding 25% of the modified landscape area or consists of less than 75% low water use or climate appropriate plantings.

### Tier 2: How to Comply

All documents are available online at [www.sfwater.org/landscape](http://www.sfwater.org/landscape), or at SFPUC Customer Service Office.

### Submit the following *before* landscape installation\*:

1. Project Information Sheet
2. Landscape, irrigation, and grading plans
3. Soil management report
4. Water efficient landscape worksheet
5. Irrigation schedule (encouraged)

### Submit the following *after* installation:

1. Certificate of completion
2. Irrigation schedule
3. Landscape and irrigation maintenance schedule
4. Audit report completed by a SFPUC inspector or a certified landscape irrigation auditor

\* For landscape projects installed as part of the construction or renovation of a building involving permits with the San Francisco Department of Building Inspection, the project's landscape compliance documents must be submitted by the [Landscape Documentation Deadline](#).

### Requirements:

- No invasive plant species or noxious weeds.
- Group plants with similar water needs within *hydrozones* and each hydrozone is controlled by a single irrigation valve.
- No *turf* on slopes greater than 25% or in areas that are less than eight feet wide, except limited circumstances allowed by law.
- Install automatic irrigation controllers that are equipped with rain sensors and use either evapotranspiration or soil moisture sensor data to adjust irrigation operation.
- Apply a minimum two inch (2") layer of mulch on all exposed soil surface or planting areas to minimize evaporation, suppress weeds, moderate soil temperature, and prevent soil erosion on slopes.
- Use re-circulating *water features*, and use recycled water or harvested rain water if available.
- Keep *Estimated Total Water Use (ETWU)* for irrigation within the *Maximum Applied Water Allowance (MAWA)*. A landscape professional will calculate these for the project. Examples of ETWU and MAWA calculations can be found online at [www.sfwater.org/landscape](http://www.sfwater.org/landscape).
- Use a landscape professional to develop and certify the landscape documentation.



Common Name: Feverfew  
Botanical Name: *Chrysanthemum parthenium*  
Low Water Use

## LARGE LANDSCAPE PROJECT COMPLIANCE

Property owners maintaining a total landscape area of 10 acres or greater may comply with Tier 1 or Tier 2 requirements (depending on the size of the individual landscape project), or they may request to comply pursuant to an approved Compliance Plan that lays out a systematic implementation schedule of landscape and irrigation improvements. A Compliance Plan must be developed in coordination with SFPUC Water Conservation Section staff, and submitted by the deadline assigned following the initial request. Please contact SFPUC Water Conservation Section staff for more information.

### EXAMPLES OF LARGE LANDSCAPES IN SAN FRANCISCO

- **Universities, colleges and schools**
- **Parks**
- **Golf Courses**



Common Name: Alstroemeria  
 Botanical Name: *Alstroemeria aurea*  
**Moderate Water Use**

## GLOSSARY

**Estimated Total Water Use (ETWU):** the total water used for the landscape as estimated by a state mandated formula that accounts for the water use classification of the plants, local climate, and the square footage of the planted areas.

**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.

**Hydrozone:** a portion of the landscaped area having plants with similar water needs. A hydrozone may be irrigated or non-irrigated.

**Landscape area:** all the planting areas, turf areas, and water features in a landscape design plan, including any adjacent planted areas in the public right-of-way for which the property owner is responsible. 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.

**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*.

**Landscape rehabilitation project:** 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.

**Low water use plants or climate appropriate plants:** plants, shrubs, groundcovers or tree species that have a water use ranking of “low” or “very low” as established in “Water Use Classification of Landscape Species” or other sources allowed by law. See a list of these plants at [www.sfwater.org/landscape](http://www.sfwater.org/landscape).

**Maximum Applied Water Allowance (MAWA):** the amount of annual applied water established by the SFPUC 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.

**Plant factor:** a factor that estimates the amount of water needed by plants. Plant factors shall be as established in the “Water Use Classification of Landscape Species” or other sources allowed by law. Plant factors can be found on the San Francisco Plant Water Use List, available online at [www.sfwater.org/landscape](http://www.sfwater.org/landscape).

**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. SLAs are permitted a higher amount of irrigation water.

**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.

**Water feature:** a design element where open water performs an aesthetic or recreational function. Water features include artificial ponds, lakes, waterfalls, streams, fountains, spas, and swimming pools. The surface area of water features is included in the high water use hydrozone of the landscape area.

COMPLYING WITH  
**SAN FRANCISCO'S**  
2010 WATER EFFICIENT IRRIGATION ORDINANCE



**CONTACT INFORMATION**

SFPUC Water Conservation Section  
(415) 551-4730 [waterconservation@sfgwater.org](mailto:waterconservation@sfgwater.org)

<http://conserve.sfgwater.org>